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Table of Contents

PAGE

WHY CATARACT PATIENTS FAIL TO ACCEPT SURGERY
Report of New York School of Social Work Study 204

EYE DEFECTS IN PRESCHOOL CHILDREN
Leon Kaplan, M.D. 211

THE REGISTER OF THE BLIND
ITS USE IN A PREVENTION PROGRAM
A. Ruth Penney and Christine Anderson 214

GLAUCOMA SCREENING
William Havener, M.D. 218

CONGRESS ON INDUSTRIAL HEALTH 220

P O B IN WASHINGTON, D. C. 222

THE PITTSBURGH PROGRAM FOR THE PARTIALLY SEEING
Ruth D. Hawkins 224

SUMMER COURSES 228

MEETING OF COMMITTEE ON PARTIALLY SEEING 229

GLASSES FOR SCHOOL CHILDREN
Virginia Jones 230

PRINCIPLES OF MEDICAL ETHICS 233

NOTES AND COMMENT 234

AROUND THE WORLD 240

CURRENT ARTICLES 242

BOOKS AND PAMPHLETS 256

INDEX TO VOLUME XXVII 261

ADVERTISEMENTS

AMERICAN OPTICAL COMPANY 201

EXCERPTA MEDICA 202

SYRACUSE UNIVERSITY 260

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WHY CATARACT PATIENTS FAIL TO ACCEPT SURGERY

A recent study indicates that particularly in the clinic setting there is need for greater interpretation by physicians and medical social workers so that patients will understand the benefits of the operation.

ALTHOUGH surgery is successful in restoring useful vision in a high percentage of persons with cataract this eye condition is still the leading cause of blindness among adults. In an effort to throw some light on why a considerable number of patients do not accept the recommendation for an operation the National Society for the Prevention of Blindness recently sponsored an exploratory study. Specific answers were sought to a number of questions:

How well do cataract patients understand the ophthalmologist's recommendation about surgery? What are the variables which affect the patient's decision to have the operation? What factors interfere with providing surgery when it is recommended?

The study was financed by the New York Community Trust and carried on by 12 graduate students at the New York School of Social Work of Columbia University* under the direction of Professor Irving Miller. The New York State Commission for the Blind cooperated.

* The study was submitted in partial fulfillment of the requirements for the degree of M.S. by Elaine Bregman, Marian Chuan, Mary Efthymiatou, Barbara Farmer, Gretchen Heinritz, Murray Israel, Paul Joseph, Bo Jung, Virginia Lee, Harvey Shwed, Regina Silverman and Jean Sullivan.

One hundred fifty-seven of 380 senile cataract blind persons living in New York City and registered with the Commission during the years 1955–1956 were interviewed. Failure to reach the remaining 223 was accounted for by deaths, residence changes out of the city, senility, unavailability or refusal to see the interviewer. A questionnaire was used as the principal tool and four major areas were covered: identifying data, medical history, social data, and attitudes and perceptions related to visual difficulty.

Cataract Blindness

Vision depends on free passage of light through the lens of the eye, which normally is transparent. When a cataract develops the lens becomes clouded or opaque and light cannot go through to the retina. Patients with this condition may complain of blurring or spots before the eyes.

The specific cause of senile cataracts is not understood. The condition is sometimes associated with other diseases of the eye, or with injury; with metabolic disturbances or diseases of other parts of the body, such as diabetes; and with vitamin deficiency. Some cataracts are present at birth. The majority, however, (about 75 per cent) develop as part of the aging

process and are known as the senile type. They are quite common after age 50, occasionally are seen as early as age 40.

When to Operate

The extraction of the lens by operation is the only successful means of treatment for senile cataract. There are no rigid rules that determine when one is operable. It used to be thought that a cataract had to become "ripe" before surgery could be performed. Medical authorities now believe that the favorable time for extraction is when the vision of the better-seeing eye has failed enough to interfere with the patient's normal daily activities and comfort. Sight can be restored by removal of the cataract if the only difficulty with the eye is the opacity of the lens. When there are other complications of the eye or some serious general physical conditions surgery may not be advisable.

Eye drops or injections have no curative value in cataract. From the early stage on it is very important that the eyes be examined periodically; also that the patient have a general physical check-up. In this way the conditions which might complicate surgery can be found and possibly cleared up.

A favorable result and useful vision with glasses follow cataract extraction in uncomplicated cases. Success depends not only on surgical skill but on exclusion of cases which cannot be improved by an operation. If recommended surgery is not done when it is considered favorable there may be less chance of success at a later time.

Survey Method

The purpose of this survey was twofold: to discover what affects a patient's decision to accept or reject cataract surgery; and to secure data which might serve as a basis for the development of an educational program.

Individual interviews were carried out with the 157 senile cataract blind in New York during the early months of 1957. The interviewees had been reported to the New York State Commission for the Blind by clinics, private physicians or social agencies. Although state law requires such reporting of the legally blind the degree of coverage is uncertain. Estimates range to 90 per cent.

The decision to use cases registered in 1955 and 1956 was dictated by the need for accurate information about time sequences between onset of eye difficulty and initial medical contact; between seeking help from more than one source and the acceptance or refusal of treatment. Further, persons more recently registered would be more accessible for interviewing and could be expected to produce the highest possible degree of reliable and accurate data.

In order to insure a high degree of reliability interviews were conducted in as uniform a manner as possible. The interviewers were instructed to ask questions always in the same sequence, and to use the phraseology of the questionnaire. The questionnaire was based on the assumption that the social situation and background of the respondent plays an important role in his decision to undergo eye surgery. It assumed that the behavior of people in general is influenced by other than rational considerations. The intent was to gain understanding regarding how and why people do or do not avail themselves of medical services.

TABLE I

Prognosis in 157 Cases

Classification	Male		Female		Total	
	No.	Per Cent	No.	Per Cent	No.	Per Cent
Treatable	22	32	49	55	71	44
Untreatable	29	42	16	18	45	30
Doubtful	13	19	18	21	31	20
No prognosis	5	7	5	6	10	6
Total	69	100	88	100	157	100

Findings of the Study

The 157 persons interviewed in their homes were in general over age 60, often financially dependent, socially deprived and isolated. Their educational level was low; almost 70 per cent had not gone beyond grammar school. Forty-four per cent were men; 56 per cent women. Eighty-four per cent were white; 16 per cent Negro.

Only seven per cent of the group were employed; 44 per cent were receiving some form of public assistance. Forty-seven per cent lived in apartments; 10 per cent in private homes; 26 in nursing, boarding or old-age homes.

The sample was found to include a considerable number of persons with treatable cataracts, many of whom had not undergone surgery. Some were classified as untreatable as a consequence of unsuccessful surgery; others had undergone the operation in spite of an unfavorable prognosis. There was evidence that the nature and quality of the medical experience—that is, by whom and how the medical situation was interpreted—had a bearing on the client's decision concerning treatment.

As shown in Table I, 71 of the 157 interviewed had treatable cataracts; 45, untreatable; 31, doubtful; 10, no prognosis. The age distribution is shown in Table II. There appears to be little difference between men and women in age distribution except that 28 per cent of the men were above 80 years of age as compared with 22 per cent of the women.

The data indicate a direct relationship between age and the decision to undergo eye surgery. The lower the age the higher the proportion who are operated upon. Table III.

Religious or ethnic background did not seem to be related to acceptance or rejection of surgery. As to marital status, 70 of those interviewed were widowed; 34 married and living with spouse; 53 single, separated or divorced. The findings seem to indicate that persons who live with others are more likely to have eye surgery (49 per cent) than are those who live alone (36 per cent). Table IV.

First Consultation

Seventy-nine per cent of those interviewed consulted an ophthalmologist, either privately or in clinic, first regarding their eye condition, as shown in Table V. Fourteen per cent first consulted an optometrist; four per cent the family physician. More than half of the group used the clinic only and an additional 17 per cent used a

TABLE II

Age Distribution

Age	Male		Female		Total	
	No.	Per Cent	No.	Per Cent	No.	Per Cent
1–19	..	..	..	..	..	..
20–29	..	..	..	..	..	..
30–39	1	1	3	3	4	2
40–49	3	4	2	2	5	3
50–59	7	10	10	11	17	11
60–69	15	22	15	19	30	20
70–79	24	35	38	43	62	39
80+	19	28	20	22	39	25
Total	69	100	88	100	157	100

clinic prior to or following consultation with a private physician. All but 26 per cent were involved in clinics, suggesting evidence of the low socio-economic level.

A large percentage of those interviewed, 123 of 157, reported their first medical contact to have been within one year after onset of visual difficulty. Twenty-three persons delayed 18 months or longer and eight of these did not seek eye care for more than five years.

Almost half of the respondents had been involved with medical services for four to more than nine years without any apparent medical success; 17 per cent were not able to recall their last medical contact.

There is some relationship between decision to undergo surgery and adjustment to the eye condition; that is, the better adjusted are more likely to decide on the operation. Less than half of the 71 treatable persons followed the recommendation for surgery; those remaining gave a number of reasons for not doing so, the most striking of which was fear. Table VI. About 70 per cent of the treatable persons reported the onset of eye difficulty as being three or four years before registration with the State Commission for the Blind.

Over half of the respondents considered not treatable were so because of unsuccessful surgery or because previous surgery had resulted in some improved vision and no further improvement could be anticipated.

Areas for Further Study

The experience gained in interviewing these blind persons suggests fur-

TABLE III

Relationship Between Age and Decision to Undergo Eye Surgery

	Under 60		60–69		70–79		80 & Over		Total	
	No.	Per Cent	No.	Per Cent	No.	Per Cent	No.	Per Cent	No.	Per Cent
Not operated	10	38	16	53	37	60	28	74	91	59
Operated	16	62	14	47	25	40	11	26	66	41
Total	26	100	30	100	62	100	39	100	157	100

TABLE IV

Relationship Between Living Arrangements and Decision to Undergo Eye Surgery

	Living with Others		Living Alone		Total	
	No.	Per Cent	No.	Per Cent	No.	Per Cent
Not operated	36	51	55	64	91	58
Operated	35	49	31	36	66	42
Total	71	100	86	100	157	100

ther studies: a comparison of two groups, operated upon and not operated upon despite recommendation and favorable prognosis; analysis of the relationship between accepting or rejecting surgery and the individual's previous experience with eye surgery; and an analysis of the reasons for the higher proportion of men who underwent surgery. It is assumed that one of the factors related to the latter is the higher degree of responsibility placed upon men for family support, and a higher demand for independence.

The findings regarding relationship between undergoing surgery and an individual's actual living arrangements—alone or with family or friends—would suggest a need to develop a program of special services for those living alone. This might include transportation to and from physicians' offices, clinics, and agencies for the blind. The absence of such services and of personal encouragement appears to be an important factor in producing attitudes of resignation, despair and indifference. In this respect it should be noted that a large proportion of people sought medical help within the first month, and an even greater number within the first year after noticing the first symptoms of eye trouble. Therefore, at the point when they noticed deteriorating vision they were basically interested in securing such help.

Many people did not undergo surgery because of fear. An even larger number did not seem to understand what was involved in their eye condition. Table VII. Some might have been frightened by their first medical contact and thus have stopped going to a doctor; others might have consulted a succession of other physicians. Some did not trust the original diagnosis and recommendation. The investigators were struck by the fact that even after consultation many of

TABLE V

First Person Consulted for Help With Eye Condition

	Male		Female		Total	
	No.	Per Cent	No.	Per Cent	No.	Per Cent
Ophthalmologist	59	85	65	74	124	79
Optometrist	6	9	15	18	21	14
Family doctor	3	5	4	4	7	4
Social agency or other	1	1	4	4	5	3
Total	69	100	88	100	157	100

TABLE VI

Reasons Given for Not Following Recommended Surgery

	Male	Female	Total
Age and other debilitating factors	2	3	5
Fear	4	13	17
Family resistance	1	1	2
Misunderstanding of condition	0	1	1
Financial	1	1	2
Temporary illness other than eye	0	3	3
Total	8	22	30

the respondents were confused about possible treatment, did not understand the medical diagnosis at all and therefore lost valuable time in making any decision to undergo surgery.

It appears that often there occurs a serious inadequacy in communication between the physician and his patient. The doctor's lack of information about the patient's social circumstances and lack of time to become familiar with his personality structure might be limiting factors. Therefore, more medical social services should be provided. The older group have a greater need for counseling, support and encouragement. They have many and complex problems of which the cataract condition and the resulting blindness is only one, albeit a crucial one. The ophthalmologist in the clinic often lacks time to deal with and treat these patients' total ills. Yet, if they are to be helped they must be looked upon as "total" persons with all their complexities.

Often the reluctance to get medical help or to accept the recommendation for cataract surgery can be traced to a tendency on the part of those who are consulted to separate the specific medical problem from the person who has the problem. The development of a program of education to encourage older people to have an operation, if such is found necessary by the ophthalmologist, is urgently needed. There is also a need for strengthening existing social services.

In view of the shortage of trained social workers Professor Miller and his associates have suggested that the training of volunteers might be considered for such functions as paying regular visits to the isolated and

TABLE VII

Responses to Question: "What Do You Think Is Wrong With Your Eyes?"

Diagnosis	Male		Female		Total	
	No.	Per Cent	No.	Per Cent	No.	Per Cent
Cataracts	50	72	56	64	106	68
Medical complications other than eye troubles	1	1	4	4	5	3
Glaucoma and/or other medical problems	9	13	17	20	26	16
Don't know	9	14	11	12	20	13
Total	69	100	88	100	157	100

socially deprived blind. This would supply friendly social contacts, and give the blind an opportunity to discuss their concerns and to receive encouragement and support. Such services could help implement any educational program geared to people who might have senile cataracts.

Summary of Findings

From the information collected in the study the following conclusions may be drawn:

There is a directly proportional relationship between age and acceptance of eye surgery for cataracts. The younger the patient, the more likely it is that he will accept eye surgery.

More men than women, irrespective of age, undergo cataract surgery.

A greater proportion of blind people living with friends or relatives than living alone accept eye surgery.

There seems to be a relationship between adjustment to blindness and a decision to undergo surgery. More patients falling into the well-adjusted category underwent the operation.

Religious or ethnic background did not seem to be related to acceptance or rejection of surgery.

Particularly in the clinic setting there is a need for greater interpretation by physicians and medical social workers so that patients will have a better understanding of what surgery may mean to them and their families.

REPRINT AVAILABLE

The article on "Glaucoma Detection in Private Practice and Hospital" by Daniel G. Vaughan, Jr., M.D., and others has been reprinted from the Fall Issue of the REVIEW and is available at $2.75 per hundred. Single copy free. Pub. No. 295.

TONOMETRY AT AMA

One of the recent activities of the National Society with regard to early detection of glaucoma was the demonstration of tonometry in the scientific exhibit of the American Medical Association meeting in New York, June 4 to 9. Resident ophthalmologists from the Manhattan Eye, Ear and Throat Hospital, Mt. Sinai, New York Eye and Ear Infirmary, New York Hospital and the Institute of Ophthalmology of Presbyterian Hospital cooperated.

A total of 540 physicians had eye tests which included a Snellen test at 20 feet, a screening for field of vision using the Harrington-Flocks multiple pattern test, ophthalmoscopy and tonometry. Of this number 23 physicians were found to have either elevated tensions or other suspicious signs of eye disease.

Each physician was informed of the results of the test, was told that this was not a complete ophthalmological examination and that therefore he should have such an examination from his own ophthalmologist after he returned home. In addition, each of these physicians received a personal letter from Dr. Willis S. Knighton, chairman of the National Society's Glaucoma Committee. A reply:

"In answer to your letter of June 25, I had a slight elevation on the tonometry when I was checked at the AMA Convention. On returning home, I had my eyes checked by an ophthalmologist, and he found the same slight elevation of pressure in my eyes. He has diagnosed my case as early glaucoma.

"I appreciate the eye check which I had at the convention in order that this condition might be checked early."

EYE DEFECTS IN PRESCHOOL CHILDREN

LEON KAPLAN, M.D.
Bridgeport, Connecticut

The chairman of the Bridgeport professional advisory committee, NSPB Connecticut Chapter, discusses conditions which are detected in vision screening programs and stresses the importance of early treatment.*

AS a medical man interested in the problems of preventing blindness, I feel that the ophthalmological profession has fallen behind in vision screening, especially in relation to youngsters of preschool age.

Most of the states require vision testing of school children and in Connecticut it is a state law that every school child must have such a test at least once a year. The older population is gradually being covered by industry's increasing awareness of this need, and most factories require a Snellen test as part of the pre-employment physical examination. Many people are tested on entrance into the armed services and on applying for a driving license. The preschool child, however, was almost completely neglected until the National Society for the Prevention of Blindness started its very worth-while screening projects.

Some years ago I saw to it that Snellen charts were given to many general practitioners and pediatricians in the Bridgeport area. However, most of these people were too busy to take the time to test these younger children routinely and they have even neglected older age groups.

* Presented at the Annual Conference of the National Society for the Prevention of Blindness, New York, April 9, 1957.

Probably the most important eye condition revealed by the screening in various areas—at least the one for which we can do the most when seen early—is amblyopia, either with or without accompanying strabismus. If two grossly dissimilar images are presented to corresponding retinal points, one of the images is eliminated from consciousness or suppressed. If this continues for a long time there is a tendency to use one eye temporarily in preference to the other and an amblyopia results. In amblyopia light perception and spatial localization are normal; only form vision suffers. This is similar to the disability suffered in animals with the occipital lobe removed. There seems to be cortical inhibition of only the form vision in suppressions and in amblyopia.

George L. de Buffon in 1743 was the first one to recognize the poor vision in squinting eyes and he treated it with spectacles and occlusion of the sound eye. Javal (1868–96) correlated the ideas suggested by Buffon and introduced treatment by orthoptic exercises. Captain Arthur H. Downing of the Medical Corps, U. S. Army, in the February 1945 *Archives of Ophthalmology*, reported that in the population of military age in the United States 49,000 men per million are

handicapped by poor vision in one eye, and of these 66 per cent suffer from amblyopia. Among 60,000 selectees for the U. S. Army there were 855 cases of uniocular amblyopia without strabismus; 770 with convergent strabismus and 295 with divergent strabismus. Commenting on this report, Sir Stewart Duke-Elder states: "That this enormous number of cases of partial blindness—66 per cent of all cases of uniocular visual loss in young adult men—suffers from a serious visual defect is a grave economic and social matter, and that it should be tolerated with complacency is an unpleasant reflection of the neglect shown by modern civilization towards its human material." (*Text-Book of Ophthalmology*, Volume IV, page 3839.)

Time Factor Important

Dr. Luther C. Peter in his book *The Extra-Ocular Muscles* states that "treatment improves even the most profound cases although the degree of improvement depends upon the duration of the scotoma, the age of the patient, and the degree of central visual acuity." I believe that the visual acuity of the infant is somewhat less than 20/200; at two years of age about 20/70; at three years of age about 20/50; and the child reaches full visual acuity at approximately age six. Therefore a youngster whose eye has been crossed since birth will have in the neighborhood of 20/200 vision in the amblyopic eye. A child whose eye first began to turn at two years of age will have about 20/70 vision in the squinting eye.

It is obvious that the earlier in life the amblyopia, with or without strabismus, is detected, the better we are able to treat it. Amblyopia under treatment is recoverable only to the level normal for the age at which suppression began. Recovery also depends on the length of time vision was suppressed, and on the age at which it was treated. An ideal procedure would be a thorough eye examination for every three-year-old, but because of obvious limitations such as lack of enough trained specialists the screening of the preschool child by volunteers is a good substitute.

Course of Treatment

In treating amblyopia we must first remove the cause. One of the most frequent causes is refractive error. After this is corrected we must occlude the good eye. Intermittent occlusion is valueless. Occlusion must be total and permanent until the vision in the occluded eye is close to that of the better eye, although binocular vision may be obtained with only as little as 20/50 in the better eye. This may take anywhere from a few weeks to many months. The use of atropine in the good eye, and stimulation of the poor eye by use (looking at magazines, tracing pictures, playing games) as well as stimulation on the major amblyoscope, are the best methods of treating the amblyopia. Finally, after the vision has been brought up to that in the better eye, and the eyes are straightened, orthoptic training is usually necessary to develop binocular vision and to maintain the improved vision in the poor eye.

Visual hygiene is also very important. We must insist on good lighting, fair-sized print, good posture when reading, and the avoidance of ocular work when nervous and muscular tone is low because of fatigue or illness. I must stress again that the earlier the

treatment of the amblyopia is started, the better chance we have to develop normal vision.

Refractive Errors

The value of correcting refractive errors by glasses early in life is well established. Certainly the story of the little girl who was thrilled by recognizing people in a movie for the first time is well known to any ophthalmologist. The delight of the myopic child in his newly acquired outlook on the beauties to be seen in this world warms the hearts of any who observe him.

Many astigmatic eyes become at least partially amblyopic because of disuse, and correcting the refractive error at the early age will save binocularity of vision. This will be lost irrevocably if the defect is not detected until the child is in the first grade at school; and many of these youngsters will develop nystagmus.

Although small amounts of hyperopia do not have to be corrected in this age group, higher levels should be corrected in order to avoid eyestrain and asthenopia, as well as convergence excess when these youngsters start looking at picture books.

In anisometropia there is a difference in the refraction of the two eyes. In adults with this condition it is often impossible to develop binocular vision. In children it is frequently possible by use of the full correction and persistence. The use of glasses must be combined with orthoptic training. Prisms are sometimes necessary to avoid the prismatic effect of the difference in lenses at the periphery. Sometimes isoikonic correction is needed.

Congenital cataracts, if untreated, will cause an amblyopia which will be deeper and more difficult to overcome the longer the surgery is postponed. If these cataracts are detected as the result of a preschool vision screening program we may be instrumental in keeping useful vision in an individual who might otherwise through neglect remain half blind and have visual limitation which later surgery and treatment will not be able to overcome completely.

Congenital glaucoma, although usually observed at an earlier age, may be seen for the first time as a result of the screening, and treatment may arrest the condition.

Tumors of the eye and the various congenital and developmental anomalies may be detected by the screening program and treated appropriately when therapy is available for the condition. Retrolental fibroplasia, especially if it is primarily unilateral, may be discovered at this time. However, we hope that this condition will be rarely if ever seen in future.

1958 NSPB CONFERENCE

Marking its fiftieth anniversary, the National Society for the Prevention of Blindness will hold its next Annual Conference in Philadelphia, March 12–14, 1958. The theme will be "Conquer Blindness—Mission at Mid-Century."

The headquarters of the conference will be the Bellevue-Stratford Hotel. Sessions during the three-day meeting will feature discussions on public relations in the field of blindness prevention; industrial problems; education of the partially seeing child; recruitment, training, supervision and service of volunteers; and advances in the study and treatment of eye diseases.

It is advisable to make hotel reservations well in advance.

THE REGISTER OF THE BLIND

Its Use in a Prevention Program

A. RUTH PENNEY
Supervisor, Medical Services
CHRISTINE ANDERSON
Supervisor, Social Service Division
North Carolina Commission for the Blind

The causes of blindness in any state must be determined before an effective prevention program can be developed.*

ACCURATE statistics on the number of blind persons in a state are essential in evaluating the results of measures taken to control blindness; and they are of first importance in planning and administering programs of assistance. Only through such studies can blindness prevention programs be planned intelligently.

The North Carolina Commission for the Blind administers a comprehensive state-wide program of services including public assistance, social service, employment, sheltered workshops, home industries, psychological services, and medical care designed to conserve and restore vision among persons unable to purchase such services for themselves. The agency has a sizable staff; the social service division, for example, has a field staff of six supervisors and 36 caseworkers for the blind.

The legislation that established the State Commission in 1935 contained a provision making mandatory the maintenance of a complete register of blind persons in the state, and the compilation of appropriate information concerning them; this statute also required that the Commission maintain a currently validated census.

First Survey

In 1935–1937 our first survey was set up as a special project by the Works Progress Administration under the sponsorship and supervision of the State Commission for the Blind. In 1937 this work was taken over by the field supervisors who enlisted the cooperation of all local agencies and organizations, both public and private. The field supervisors contacted the local health, education and welfare agencies; the procedure followed generally was to contact the local tax authorities in each of the 100 counties and secure their permission to include in each tax notice a postcard requesting information on persons with eye difficulties. These cards were mailed in some cases with other materials, such as light and water statements of utility companies. They were also distributed through the schools.

The name and address of the district field supervisor of the Commission was stamped on one side of the

* Presented at the Annual Conference of the National Society for the Prevention of Blindness, New York, April 8, 1957.

card; on the other the following message was printed:

"County Survey of Blind and Visually Handicapped—Please list below the names and addresses of any persons you know who cannot see well enough to read ordinary newsprint, or who are suffering from a serious eye difficulty—children or adults. Many services ranging from talking books, braille instruction, recreation, employment, medical care and economic assistance may be made available to these people."

Space was provided for three names and addresses, and instructions were given about mailing or delivering the card. Adequate publicity for each countywide survey was secured through all available media of communication, such as radio and newspapers.

Compiling the List

When the information was received by each field supervisor it was screened for duplications, and a list was compiled of all persons reported as visually handicapped. This was then checked by the field supervisor against local agency records for more specific data. On the basis of this compilation we were able to arrange through local schools and public health and welfare agencies for follow-up on all referrals. It should be emphasized that medical records are essential as a source of adequate statistics on causes of blindness. Through our follow-up clinics we were able to obtain the medical information necessary in setting up our first register.

With the enactment of the social security law in North Carolina, effective July 1937, foundation was laid for obtaining more accurate, detailed and uniform statistics than had hitherto been available on a large scale. The State Commission for the Blind was the agency designated to administer Title X of the Act. A requirement of the Federal Security Agency's Bureau of Public Assistance was that all states adopt a standard definition of economic blindness and that the fact of blindness be determined by an ophthalmologist or a physician skilled in diseases of the eye. This gave us the medical diagnosis of the cause of blindness, etiology, and recommendations for improving or conserving vision.

Our definition of blindness provides for the concept of "economic blindness" and reads:

> Central visual acuity of 20/200 or less in the better eye with correcting lenses or visual fields limited to 30° in the widest diameter may be considered economic blindness;
>
> Central visual acuity of 20/100 in the better eye with correcting lenses in very progressive cases, may constitute industrial blindness; certain ocular conditions, which do not necessarily involve visual acuity or peripheral field loss, which may be equally disabling.

Our State Plan for Aid to the Blind imposes no restrictions with respect to age; and a ruling from the Attorney General in 1945 interprets the purposes of the law: "to provide aid to the blind in all cases in which persons are eligible or entitled to receive it under the act . . . if the person who is on the roll for old age assistance or aid to dependent children is found to be eligible and entitled to aid to the needy blind, such person should be removed from the roll for old age assistance or aid to the dependent children and furnished the relief provided for the persons falling within this category." A 1951 ruling of the

Attorney General specifies that this same ruling applies also in the matter of granting aid to the permanently and totally disabled.

Under our program for prevention of blindness medical care is made available not only to applicants and recipients of aid to the blind but to all other persons having serious visual defects who are unable to pay for their own treatment.

Statute Requires Reports

In 1945 a statute was enacted requiring that a report be made to the State Commission for the Blind by the physician, ophthalmologist or other eye examiner on any person found to have vision, or vision with glasses, so defective as to prevent the performance of ordinary activities for which sight is essential; this report to be made within 30 days following the examination. As stated before, our medical eye reports are considered our greatest source of referral; and they are essential for any service provided by our agency. Other sources are our system of group and continuing eye clinics throughout the state; county health and welfare departments; school clinics; medical schools and private physicians.

We have inter-agency agreements with the State Veterans Administration; the division of premature infants, State Board of Health; the State Welfare Department, division of disability determination; the State School for the Blind; and the Driver's Licensing Bureau for referral of all visually handicapped persons coming to their attention. We promote state-wide publicity programs through radio, TV, newspapers, special pamphlets and newsletters to inform the public about conservation of vision, the problems of blindness, and the needs of the blind. The many specialized types of services available through our agency provide another rich source of referral. Talking Book applications and other similar requests for special services require medical data to substantiate eligibility. Our case work staff is responsible for census reports on all visually handicapped persons who are service cases only. These reports are made to their field supervisors who in turn refer them to the state office census.

Responsibility for Register

The Social Service Division is responsible for keeping a complete statewide register of the blind; and it is the direct responsibility of each of the six field supervisors to maintain a complete register in the six district offices of the agency. Our census card provides for data relating to the blind person: home county, name and address, name and address of parents if the visually handicapped person is a child; birth date, sex, race, marital status, age became blind, date of examination, name of examining physician, diagnosis, visual acuity, list of blood relatives with defective vision, health problems, other handicaps, education, present occupation, occupation before blindness and armed service record.

Our card also provides for date of accession to the register and dates of validation covering a 10-year period. The last section relates to the separation of the card from the index and the reasons for its removal—changes in addresses and dates of such changes. Our procedure for additions and deletions to the census is a continuous process; a revalidation and a complete

statistical tabulation is made biennially by the field supervisor and the state supervisor of the social service division for publication in our biennial report. This tabulation provides information by geographical regions on race, sex, present age classification, degree of blindness and age at onset.

Each month the state office gives each field supervisor a list of aid-to-the-blind acceptances, terminations, rejections and transfers for use in validating the district office census on aid to the blind. The Division of Social Service also validates from this list the master file on aid to the blind. In addition the Division daily checks all eye reports for additions and deletions from the census, and advises the appropriate field supervisor of changes.

Source of Statistics

From our register we can readily obtain up-to-date statistical information for frequent evaluations of the extent to which services are being provided and secure highly important data in support of legislative requests. The register makes possible special studies on causes of blindness, and we have found many and varied uses for it in our prevention program. Our primary focus is, of course, the prevention of blindness, the restoration of vision and conservation of remaining vision.

We can identify the number of blind persons having a particular eye disease; for example, statistics on glaucoma cases in a given county may be requested by the state or local health department for determining the advisability of setting up a glaucoma detection clinic. The prevalence and location of hereditary blindness can also be determined.

The accident prevention division of the State Board of Health has carried on an intensive research program in recent years for which we have supplied statistics. This information has been used extensively in accident prevention and other health conferences throughout the state; and in the promotion of legislation to control the sale of firearms and fireworks.

Our records are carefully examined to screen those persons who have some residual vision and who might benefit from the use of visual aids. We have supplied information on children eligible for special educational facilities. The statistics are also of great value in promoting local community interest in better lighting and other special equipment and supplies necessary for sight conservation.

Although we feel that we have made great progress in reducing the incidence of blindness through preventive measures we are fully aware that the lengthened life expectation has greatly increased blindness due to degenerative changes. Only through continuous programs of detection and prevention can we hope for further achievement.

Equipment for the Partially Seeing

An up-to-date revision of the National Society's mimeographed list of Suggested Sources of Equipment for Partially Seeing Pupils is now available at 10 cents. Among the items included are: large-type encyclopaedias and dictionaries; reference books in biography and history, science and geography; large-type typewriters and typewriting manuals; duplicating machines; light meters; magnifiers; mechanical devices; maps and globes; chalkboards; paints, brushes and writing materials; posters and recordings; educational word and number games. A supplementary list includes suggested teacher aids.

GLAUCOMA SCREENING

WILLIAM HAVENER, M. D.

Acting Chairman, Department of Ophthalmology, University Hospital, Ohio State University, Columbus

THE recognized high incidence of asymptomatic glaucoma, its dire consequence if untreated, and the good response to early treatment make it urgent to detect chronic simple glaucoma as soon as possible. Early diagnosis is now best made by tonometry and provocative tests. Unfortunately, the average general physician will not perform tonometry because he is hesitant to touch the eye and because the procedure requires additional time. I believe the present best solution to this problem is to inform physicians and public that glaucoma should be suspected under the following circumstances, and that the coexistence of age over 40 with any of the other reasons warrants ophthalmologic referral:

1. Age over 40 years
2. Family history of glaucoma or any unexplained blindness of insidious onset in adult life
3. Shallow anterior chamber (decreased distance between iris and cornea)
4. Decreased corneal diameter (10 mm. or less)
5. Unexplained eye symptoms or headache
6. Repeated unsatisfactory changes of glasses by non-medical refractionists
7. Ophthalmoscopic evidence of pallor or cupping of the optic disc (a late sign)
8. Visual field loss (a very late sign)

Ophthalmologic referral under these circumstances would detect a large proportion of glaucoma patients in relatively early stages of the disease. Such referral is economically justified to the patient, since practically everyone over the age of 40 requires reading glasses or bifocals. Ophthalmologic examination will provide a thorough evaluation of the health of the eye in

TABLE

Color Perceived	1	2	3	4
	Per Cent	Per Cent	Per Cent	Per Cent
White, Gray or Blue	78	62	65	74
Green	5	14	11	8
Yellow or Red	17	24	20	12
No Phosphene	..	..	4	6

1. 82 eyes proven normal by careful examination in ophthalmology clinic.
2. 213 eyes from volunteers checked by tonometer and found to have normal tension.
3. 54 eyes known to have disease other than glaucoma.
4. 52 eyes known to have glaucoma.

addition to the prescription of glasses. Although the service fee of the ophthalmologist is in most instances higher than that of the optometrist, I am firmly convinced that ophthalmologic care is cheaper to the patient. This is because of the optometrist's characteristic prescription of insignificant lens changes and his promotion of additional pairs of "functional" glasses, new frame styles, etc.

Constant search for new screening procedures has resulted in such instruments as the Harrington-Flocks multiple pattern visual field screener. This is a very good test which effectively detects the presence of a variety of diseases causing field defects. Unfortunately it cannot detect the earliest stages of glaucoma, when elevation of pressure is the only abnormality. Nevertheless, the Harrington Screener has established itself as a valuable, quick, simple screening test for eye disease.

Unsupported claims have recently been made concerning the value of the "Phosphenator" in detection of glaucoma and a variety of other eye diseases.[1] This is a screening instrument which employs a pulsating electric current to stimulate a colored ocular phosphene. It is claimed the perception of a red phosphene is abnormal and diagnostic of glaucoma. As described in the accompanying table, we have studied the response of 401 eyes to such a pulsating current.[2] It is evident that no correlation exists between the color seen and the presence or absence of disease, including glaucoma.

REFERENCES

1. Humphrey, Carroll E., Ph.D., and Murgolo, V. J., M.D. A Simple and Rapid Test for Glaucoma. *Eye, Ear, Nose and Throat Monthly*, Vol. XXXVI, No. 2, February 1957. p. 106–107.
2. Lipetz, Leo. E., Ph.D. Evaluation of the "Phosphenator Test" for Glaucoma. *Journal of the American Optometric Association*, Vol. XXIX, No. 4, November 1957. p. 247.

MIGEL MEDAL AWARDS

Two leaders in rehabilitation of the blind received the 1957 Migel Medal for Outstanding Service to the Blind in a ceremony held October 17 at the New York City headquarters of the American Foundation for the Blind. The Reverend Thomas J. Carroll, director of the Catholic Guild for the Blind, Boston, was honored for his work with blinded service men. The other medalist was Joseph Hiram Chappell, specialist in rehabilitation for the blind, Office of Vocational Rehabilitation, Washington, D.C., who has pioneered in opening up vocational opportunities in agriculture for thousands of blind persons.

The Migel Medal is traditionally presented by Helen Keller, who was unable to be present. As her deputy, Dr. Howard Rusk read her eloquent citations, adding his own tribute.

CRACK SHOT

A right-handed marksman who lost his right eye in a hunting accident several years ago recently won the local handicap championship of the American Trapshooters Association by shooting all 100 targets at a Blooming Prairie, Minnesota, meet. His perfect score was the second in the history of the state's trapshooting events. Rising to the challenge of the loss of one eye this marksman tied the record using a shotgun he designed himself, with sights adjusted to compensate for his visual loss.

CONGRESS ON INDUSTRIAL HEALTH

MODERN concepts of insuring the worker's visual health, safety, and optimum efficiency were presented at the seventeenth annual Congress on Industrial Health held in Los Angeles February 4 and 5, 1957. The six papers summarized below were published in the *A MA Archives of Industrial Health* for August and September, and will be issued by the American Medical Society in a brochure.

A six-point vision program for industry was urged by Dr. Franklin M. Foote, executive director of the National Society for the Prevention of Blindness. This program reflects the enlarged importance of eye health to worker and management today. Its components are: 1. Screening for eye disease and testing for the five basic visual skills of central visual acuity at distance and near, muscle balance and coordination of the two eyes, depth perception, and color discrimination. 2. Job analysis for visual factors. 3. Provision of eye safety equipment, with the correction needed for the individual job. 4. Provision for emergency eye care. 5. Proper use of lighting and color. 6. Group and individual education in eye health as well as in eye safety.

Screening Methods

An evaluation of vision screening methods was presented by Dr. Michael J. Hogan of the University of California School of Medicine. He was assisted by Colonel Austin Lowrey, chief, Ocular Research Unit, Walter Reed Army Medical Center, who presented slides showing screening procedures. Dr. Hogan explained the meaning of the terms used by eye specialists, the objectives he and Colonel Lowrey considered proper in industrial screening, and the instruments and techniques to be used. He recommended testing visual acuity for near, mid-distance, and distance by the Snellen and Jaeger charts; this test alone he felt sufficient for most employees in small plants. Large labor forces, he suggested, should be given further tests by a carefully trained technician. In evaluating results the medical specialist is sometimes the only trustworthy judge.

Color Vision

Commander Dean Farnsworth of the Medical Research Laboratory at the U. S. Naval Submarine Base explained testing for color deficiency. He simplified the subject by his system of rating mild, moderate, and severe degrees of the three types of defect, the most common involving red-green. Industrially the degree of defect, not the type, is important. Mild color defectives should not be disqualified as bus drivers or pilots, but the moderate defective, who is safe enough in most factory operations, should not be put in a position in which his lack of color judgment would jeopardize persons or property.

The new AMA standards for compensating workmen for visual loss were discussed by Dr. Edmund B. Spaeth, chairman of the Association's Committee on Industrial Ophthalmology. He explained that the old tables for the estimation of loss of visual efficiency overestimated the importance of distance acuities and under-

estimated that of near vision. He expressed the hope that the revision committee's report may help to end the present chaos in compensation awards, and provide a basis for uniformity as between the states.

Light Levels

Dr. H. Richard Blackwell of the Vision Research Laboratories, University of Michigan, discussed the quantitative relationships of lighting and vision. Using graphs he showed how various light levels affect visual discrimination and the oculomotor mechanisms, especially accommodation and convergence. In a given visual task 10 foot-lamberts give 50-per-cent accuracy, and visual performance keeps improving with increased light until even at 100 foot-lamberts a goal of 99-per-cent accuracy has not been reached. Nearly ten times as much light is needed to recognize a rectangular object as to see a circular one of the same area. There are safety implications in the fact that much more light is needed to see an object in the periphery of vision than in the central field. More light in general seems to improve the amplitude of accommodation, and thus ocular performance and comfort. Dr. Blackwell reported recent experiments which show that the amplitude of accommodative vergence improves as the light level rises, even up to a level of nearly 1,000 foot-lamberts.

Eye safety in industry is a wholly attainable goal, James E. O'Neil, director of industrial service of the National Society declared. At present this country has 5,000 eye injuries for every five days of industrial operation, and at least 90 per cent of them are needless. Accidents can be eliminated by dropping what is known as job-selection protection, and making eye protection mandatory for all.

A four-point program is suggested: 1. Management, medical, safety and union representatives should together formulate a sight-saving policy. 2. Safety eyewear should be provided for all employees on an area or plant-wide basis. 3. Wearing of protective equipment should be mandatory. 4. Employees should be constantly educated in eye safety, using the Wise Owl Club as one incentive.

Mandatory programs have had striking success. One large Ohio plant which had 500–600 eye injuries a month now has none. Another, in New York, has saved 82 employees the loss of an eye and has saved over a million dollars in compensation costs.

BRUCELLOSIS FROM SPRAY

A case of brucellosis in a physician-rancher who accidentally sprayed his face and eyes with vaccine while vaccinating cattle for Bang's disease was reported in the *Journal* of the American Medical Association for July 20th.

The physician was using a vaccine containing low-potency living Brucella abortus organisms. The needle accidentally blew off the syringe and the vaccine sprayed on his face. Thirty-one days after the accident he became ill. Although his symptoms were similar to a common respiratory illness, blood tests verified the diagnosis of brucellosis.

Four similar cases of the disease acquired by accidentally spraying the eyes or puncturing the skin with the needle have been reported previously. It is recommended that vaccination of cattle be done only by qualified persons who understand the dangers of the living Brucella abortus vaccine; and that they use syringes that lock the needles in place.

POB IN WASHINGTON, D.C.

ONE of the active agencies combatting blindness in this country is the Prevention of Blindness Society of Metropolitan Washington. Some of the projects sponsored last year were reported by Miss Helen Curtis Demary, executive director, at the 1957 National Society for the Prevention of Blindness annual conference.

A glaucoma-finding project which will eventually reach thousands began with a pilot program covering the District of Columbia and the adjoining areas in Virginia and Maryland. Facts about the disease were broadcast by radio and television, feature stories in newspapers, and posters placed in buses and streetcars. Members of five Lions Clubs were given glaucoma tests and 250 others were screened in Alexandria as part of a multitest program of the local health department. Trained members of the Society staff examined the field of vision with the new Harrington-Flocks Multiple Pattern Screener, and eye tensions were taken by ophthalmologists. The greatest resource that any community can have in a glaucoma campaign, Miss Demary said, are the individual ophthalmologists who are willing to volunteer their time to take eye tensions. More than a dozen busy specialists are helping the glaucoma project.

School Shop Survey

In the field of industrial eye safety the Society enlisted 15 volunteers from the local Society of Safety Engineers and three school shop supervisors. Accompanied by these experts staff members of the Prevention of Blindness Society surveyed 143 shop classes in 16 District of Columbia schools, and made written reports of hazardous conditions and poor lighting, which resulted in many improvements.

Protecting the younger age group, for the fourth year a campaign for safe Christmas toys was carried on by radio, television, and posters. To stimulate increased vision testing of children, the Society gave eleven lecture-demonstrations to key personnel, including the public health nurses in Fairfax County and the mother-volunteers in the Arlington and Fairfax parochial schools. Tests for visual acuity and strabismus were given 75 preschool children, and vision tests were given 350 junior high school students, with the Society testers demonstrating proper methods to their teachers.

The Community Chest allocates about $8,000 a year to the Society, Miss Demary reported, and the remainder of the budget was made up by contributions from members, the proceeds from a rummage sale, and a gift of over $1,200 from the Lions Clubs to finance the glaucoma project.

Counseling Interviews

More and more people with eye problems come to the Society for advice, Miss Demary said. During 1956 there were 560 counseling interviews. The Society not only tells people where to go for eye care, but in needy cases buys their prescription glasses. This is made possible by an arrangement with New Eyes for the Needy, the voluntary agency in Short Hills, New Jersey.

In a later report Miss Demary explained that for the last four years New Eyes for the Needy has allocated $1,000 annually to the Society as one of its distributing agencies. The Society is in touch with the social workers at the local eye clinics, who determine the cases needing help in getting prescription glasses. Local ophthalmologists also refer some of their charity cases to the Society. So far more than 500 pairs of prescription glasses have been paid for out of this special fund. In return, the Society has shipped New Eyes for the Needy about 17,000 pairs of discarded spectacles besides broken watches and bits of jewelry contributed by the public. The gold and silver in these discards is salvaged, and furnishes the funds which New Eyes for the Needy distributes to agencies all over the country. The Society carries on a vigorous campaign for the collection of old glasses and jewelry to be transformed into better eyesight for thousands.

NSPB SEPTEMBER CAMPAIGN

The National Society's Sight-Saving Month campaign was conducted once again during September. Purpose of the 1957 educational program was to bring the facts of proper eye care before more and more Americans.

Newspaper copy and clipsheets prepared at the National Society's headquarters for the seventh annual observance stressed the need for eye health for the entire family. Sight-Saving Month kits were also issued locally by NSPB chapters, affiliates and committees this year to tell of the vital need for basic research.

Approved by the Advertising Council of America, the informational program received full support from the nation's press. Governors of 31 states helped spur the '57 drive with Sight-Saving Month proclamations, and free educational material was distributed.

Radio and television stations broadcast eye health messages, and prevention of blindness workers appeared on various programs to tell the NSPB story. Car cards used in major cities' transportation systems helped publicize this year's slogan—"A Word to the Wise—Take Care of Your Eyes."

As a result of this cooperation from the media of communication, various offices of the National Society received and filled the demands of thousands of men and women for information about eye problems.

STUDY OF RETINOBLASTOMA

Dr. P. Thomas Manchester, Jr. of Atlanta, Georgia, is studying the hereditary aspects of retinoblastoma. He would be interested in knowing the names and addresses of adults who are blind or partially seeing as a result of this disease. Dr. Manchester would like to correspond with such persons as to the number of their children and whether any are affected with retinoblastoma. His address is 478 Peachtree Street N.E., Atlanta 8.

WELCOME LETTER

"The enclosed check . . . is sent with special appreciation for the work Prevention of Blindness is doing," writes a contributor to the National Society. "The glaucoma leaflet . . . sent me to my oculist with a request for an examination which had not been given my eyes during previous visits. Glaucoma was found in one eye which limits the use of both. The Society has my gratitude for being instrumental in helping me to save the sight that is left."

THE PITTSBURGH PROGRAM for the Partially Seeing

RUTH D. HAWKINS
Itinerant Sight Conservation Teacher
Public Schools, Pittsburgh, Pa.

The itinerant plan adopted three years ago supplements special facilities for the visually handicapped throughout the school system.*

IN the development of our educational potential in Pittsburgh an important factor is our increasing service to partially seeing children who need education plus, or special education. Through experience in this field we have found that the triangle plan is the best. At the apex of the triangle are the recommendations for special service made by the ophthalmologist, the psychologist and the director of special education, who are best able to determine placement. The base of the triangle is either the sight conservation class or the services of an itinerant sight conservation teacher furnished to the partially seeing child in the regular classroom.

In September 1954 the itinerant teaching program was initiated in Pittsburgh. Prior to this we had two sight conservation classes which had been in operation for more than two decades. These have done excellent work and are still operating for the 35 students whom they can accommodate annually. However, there were many others in the city schools who needed special facilities but who could not be accommodated in either of these classes. Such factors as age, transportation and geographical location acted as deterrents. The consulting ophthalmologist felt that there were certain children who did not need all the special services but who would benefit greatly by the use of large-type books in the regular classroom; also by an interpretation of the medical diagnosis to the school personnel so that they might better understand the educational implications of the visual problem.

It was for this latter group of partially seeing children with varied educational and medical background that the services of an itinerant teacher were added to the school program. I should like to emphasize the word *added* because we strongly feel that no program for partially seeing children can be comprehensive enough to serve all degrees of partial vision without the services of the sight conservation class.

Plan for Placement

Every child is specifically recommended for the program by his ophthalmologist. When a teacher or parent recognizes that a child is having some visual difficulty she may have him

* Presented at the Annual Conference of the National Society for the Prevention of Blindness, New York, April 10, 1957.

screened by the school physician for verification. He then refers the case to the family ophthalmologist, the Board of Education eye clinic or a hospital eye clinic, whichever is most convenient for the parents. The examining eye physician is asked to make special educational recommendations in a written report which includes these items: visual acuity with and without glasses; diagnosis, prognosis, prescription, special recommendations; also the answer to the question: "Do you recommend that educational sight conservation materials be used by the teacher with this case?"

Following this referral the child is examined by the school psychologist upon request, and a conference is held with the parents and principal to discuss all factors of home, health and school adjustment which might be considered in relation to proper placement, either in the itinerant program or the special class.

Some children, because of low visual acuity or social and emotional immaturity, cannot adapt successfully to the atmosphere in a large classroom with high enrolment, many distracting stimuli and insufficient teacher attention. It is well known that not all persons with a similar eye disability are similarly handicapped. A child is handicapped only so far as the visual problem interferes with his normal development—physical, social, emotional or educational. Some relatively insignificant discomforts such as glare from a bright light may constitute a real handicap for one child, whereas thick glasses and frustration on the ball field may be no significant deterrent to another child. Likewise, the parents of a child with low vision react in different ways. Some reject and blame the child or themselves, while others prevent the child from adjusting to others of his age by their constant overprotection.

Some children with low acuity or limited fields are able to use vision as their chief channel of learning, but cannot be successful in a regular classroom because of the multiple problems involved. They may need handwritten materials, a special typewriter, Talking Book, tape recorder, a slower pace in word discrimination and special care in large groups of people or on the playground. Such pupils do participate in the regular school program by joining their age-grade groups for music, auditorium activities, participation in units of study and primary-grade activities programs. Because of their other problems, however, they do need the educational opportunities that only a specially trained sight conservation teacher can give them in a properly equipped classroom. For these children we have the two sight conservation classes which serve children in grades one through eight.

Itinerant Plan

The itinerant sight conservation program includes all 120 public schools in the City of Pittsburgh. At present 95 elementary and 27 high school students from 68 schools are enrolled from kindergarten through the twelfth year. This group has grown since the program was initiated in 1954. The system of referral previously mentioned seems to be most successful. Among the reasons for growth in enrolment are an increase in school population and in retrolental fibroplasia babies now of school age. Ophthalmologists are learning of the available service, and school personnel are be-

coming more alert to visual problems in the classroom.

The itinerant teacher covers a wide range of consulting, teaching and integrating services. Following the medical referral she visits the child in the regular classroom, interprets his eye condition to the several teachers and suggests proper seating arrangement. She may also indicate eye hygiene practices such as limited outside reading activities, homework and physical activity; prevention of glare on working surfaces; judicious viewing of movies and television. She furnishes large-type books, special paper and chalk. Following the initial visit she returns within a short time to iron out any problems or to answer questions which may have arisen. This practice has proved to be most worth while. It develops good professional relations because the teachers are often overly concerned about the eye condition of the child or else they hesitate to plan an adjusted program in the regular classroom for just one child. If the itinerant teacher takes the major responsibility for planning the program and makes frequent visits the regular teacher feels that she has a partner.

The special teacher may spend some time giving typing, remedial reading or handwriting instruction. Often the materials for teaching reading readiness do not seem appropriate; perhaps they are not large enough. The itinerant teacher brings some materials; suggests ideas for the first-grade teacher to use and perhaps adopt for her regular first-grade children as well. Incidentally, the cooperative plan of give and take of ideas between itinerant and regular classroom teachers is remarkable in its enrichment of both programs.

High School Level

On the high school level the special teacher may arrange with the teacher of English to substitute certain required book reports for those available on the Talking Book. Also the amount of homework may be reduced and compensated for by extra oral recitations or assignments requiring minimum use of the eyes.

Julia is a high school girl with myopia for whom the doctor has recommended no eye work in or outside of school. In consultation with the guidance counselor a senior year program of distributive education has been selected for her. Under this the various phases of merchandising are taught in the morning; in the afternoon the student is employed where she must meet the public. Julia has a job in a cafeteria. This works well for her eye condition, her vocational training and her aim in school—to graduate.

The special teacher takes the responsibility for securing the ocular records, for helping the child and his parents adjust to the eye condition, and to understand just what is being done by the school to provide him with special education. Often the itinerant teacher makes a home visit as part of her initial contact with the child. This helps to establish positive public relations. The parents are anxious to have help for their children and they feel free to call on their friend the itinerant teacher when educational problems arise. The special teacher is always available to principals, classroom teachers and nurses for discussion of the students' problems.

The itinerant teacher often cooperates with a social agency in the community if this will help smooth the child's educational path. Such a case

is that of Phyllis who for seven years was educated in a residential school for the blind. Following surgery she is now able to use her eyes for her education; however, she wears heavy glasses and uses a magnifying glass. When her day-school placement was to be made there were several limiting factors. Her family lived in a rural area and had to be moved to the city where extra services were available. Phyllis rejected her home and family because she felt she had been institutionalized unjustly; she didn't wish to dress as a girl, thinking that her mother preferred her brothers and their dungarees. In fact, the problems faced were so complex that the services of a psychiatrist were sought. Phyllis was placed in an elementary school where the itinerant teacher tutored her in reading, arithmetic and typing, because handwriting was a slow, cumbersome process to learn. The school arranged a special schedule and the classroom teacher gave extra dividends of patience during the year. Now Phyllis is in junior high school. She is still in need of much guidance from the social agency and the teacher but the complications are lessening and she is gaining new independence daily.

The itinerant teacher is also concerned with vocational rehabilitation, college plans and scholarships. Peter, who has a visual acuity of 20/100 with a diagnosis of myopia and nystagmus, is now president of the senior class and editor of the school newspaper and yearbook, and he will graduate with high honors, ranking tenth in his class of 196 students. He has been accepted by two local colleges and we are working on some financial assistance for his education.

Jane has been referred to the State Vocational Rehabilitation Bureau which has given her aptitude tests and finds that she is suitable for further training in business machines operation.

On the kindergarten level much help can be given to parents who are fearful about the success of their partially seeing children in a public school situation. Dorothy's mother is blind and the child's congenital cataracts have always led the family to believe that she could not safely attend public school. As a result Dorothy was found to be very immature and dependent, though of average intelligence. Following a home visit and a conference with the psychologist and the itinerant teacher Dorothy's mother began to place more responsibility on the child who proved to be a well-adjusted first grader.

Summer Day Camp

In the summer of 1956 an interesting pilot program was initiated in Pittsburgh—a summer day camp for partially seeing children, age 7–12, who were selected from the county and city areas. During the six-week session they learned to swim, to play with the orange-colored volley ball and to do exciting projects in handwork. They visited the Pittsburgh Pirates and went fishing in Schenley Park Lake. Expenses and all other needs of the children were met by a number of agencies and individuals who joined hands in the project. Among them were the grandparents of two of the children, the Pittsburgh Branch of the Pennsylvania Association for the Blind, the secretary of the American Camping Association in Pittsburgh, the executive director of the Young Men and Women's Hebrew Associa-

tion and the itinerant sight conservation teacher of the schools. An excellent staff worked with the children and held parent meetings.

Last summer complete operation of the camp project was taken over by the YM and WHA and the session was extended to seven weeks, with 30 children in attendance. Registration and orientation were done by a leading ophthalmologist, the Pittsburgh Branch of the Association for the Blind and the itinerant teacher. Money for the project was granted by the Karp and Rachel Rosenberg Foundation.

CORRECTION

A report of an NSPB Annual Conference session on "Education of the Partially Seeing Child" appeared in the Fall 1957 issue of *Sight-Saving Review*. A correction should be noted in the opening remarks of the chairman, Anthony J. Pelone, page 168, last paragraph. This should read:

"Mr. Pelone said that in three residential schools for the blind in New York State there are 460 children classified as legally blind. In addition there are 645 such children not in residential schools. Some of these children have sufficient vision to benefit from the large-type material, and they will be registered with the American Printing House for the Blind."

CHILDREN LIKE OCCLUDER

In vision testing of preschool children the lorgnette occluder has distinct advantages, Dr. Henry F. Allen writes in the *American Journal of Ophthalmology* for August, 1957. Instead of telling the youngster, "Cover up one eye," he invites them, "Look through the hole in the fence." This positive approach gets better cooperation from the child, who is less apt to peek.

SUMMER COURSES

According to information received to date by the National Society for the Prevention of Blindness five colleges and universities will be offering summer courses for the preparation of teachers and supervisors of partially seeing children in 1958. Detailed information can be obtained by writing the course directors.

Basic Courses

Illinois State Normal University. June 16 through August 8, 1958. Dr. Rose E. Parker, director, Division of Special Education. Illinois State Normal University, Normal.

George Peabody College for Teachers. June 9 through August 8, 1958. Dr. Lloyd M. Dunn, coordinator, Education for Exceptional Children, George Peabody College for Teachers, Nashville 5, Tennessee.

San Francisco State College. June 23 through August 1, 1958. Dr. Leo F. Cain, dean of summer sessions, San Francisco State College, 1600 Holloway Avenue, San Francisco 27, California.

Syracuse University. June 30 through August 8, 1958. Dr. William M. Cruickshank, director, Education of Exceptional Children, School of Education, Syracuse University, Syracuse 10, N. Y.

Wayne State University. June 23 through August 2, 1958. Dr. John J. Lee, chairman, Department of Special Education and Vocational Rehabilitation, College of Education, Wayne State University, Detroit 2, Michigan.

Advanced Course

Syracuse University. July 20 through August 1, 1958. Dr. William M. Cruickshank, director, Education of Exceptional Children, School of Education, Syracuse University, Syracuse 10, N. Y.

MEETING OF COMMITTEE ON PARTIALLY SEEING

An all-day meeting of the National Society's advisory Committee on Education of Partially Seeing Children was held in New York City April 11.

Among the problems considered by the committee were the following:

Number of partially seeing children. The current estimate of such children needing special service is one in 500. How nearly accurate is this figure? Readers of the REVIEW can assist in testing its validity by advising the Society's consultant in education, Miss Helen Gibbons, as to how many partially seeing children in their localities are actually receiving special services, either in the special classroom, the resource room, or on the itinerant-teacher plan; also by indicating the number of such children who should be receiving special services.

Services of the itinerant teacher. Where partially seeing children are being served through an itinerant teacher, it was urged that the National Society be informed as to the number of children involved, their geographic distribution, grades and the time spent with each of them by the itinerant teacher.

Integration of partially seeing children in regular grades. It is the responsibility of the special teacher to guide regular teachers toward a better understanding of their combined efforts in the education of partially seeing children. Regarding educational placement of the partially seeing, it was recommended that the final decision should rest with the school administrator, based on the eye physician's report, psychological tests and the observations of teachers and parents.

Need for more help at the high school level. Readers of the REVIEW can assist in a study as to why students drop out by informing the Society's consultant in education regarding the situation in their localities.

Terminology. Although the committee recognized the need for a new expression to replace "sight-saving class" and "sight conservation class," possible alternate terms met with little agreement. Won't you readers suggest a better name for these classes? In doing so you will receive the accolade of educators and ophthalmologists.

Members of the Committee on Education of Partially Seeing Children are:

Chairman—Mrs. Hazel C. McIntire, director, division of special education, State Department of Education, Columbus, O.

Mrs. Dorothy Bryan, assistant director of special education, blind and partially seeing, State Department of Public Instruction, Springfield, Ill.; Dr. Lloyd M. Dunn, coordinator of special education, George Peabody College for Teachers, Nashville, Tenn.; Dr. Gabriel Farrell, Rochester, Mass.; Mrs. Helen Fields, director, bureau for education of visually handicapped, Board of Education of the City of New York; Margaret F. Gnade, supervisor, prevention of blindness department, Pittsburgh Branch, Pennsylvania Association for the Blind; Ruth D. Hawkins, itinerant sight conservation teacher, Board of Education, Pittsburgh, Pa.; Dr. Romaine P. Mackie, chief, exceptional children and youth, U. S. Department of Health, Education, and Welfare, Washington 25, D. C.; Charles C. Wilson, M.D., professor of education and public health, Yale University School of Medicine, New Haven, Conn.

A TEACHER affects eternity; he can never tell where his influence stops.

—HENRY ADAMS

GLASSES FOR SCHOOL CHILDREN

VIRGINIA JONES

Supervisor, Medical Service Bureau

Wichita, Kansas

Wichita's Medical Service Bureau is a thriving community agency which is giving outstanding help on eye problems.

SOME 20 years ago a Community Chest agency grew into being as a direct result of the interest of several members of the Medical Society of Wichita and Sedgwick County, Kansas. These physicians of vision and insight saw the need for a plan for people who, being medically indigent but otherwise able to meet their families' needs, were not eligible for county welfare medical facilities. With the cooperation of other civic-minded citizens they created the Medical Service Bureau.

This agency was to provide counseling service for people who wished help on various medical problems. It was jointly sponsored and financed by the Community Chest and the Medical Society of Sedgwick County, and housed in the Society's office. A case-work supervisor was employed to interview patients and to determine need. Upon completion of an itemized monthly budget, against which income and other resources could be measured, it would be possible for the supervisor to determine what total amounts might be assumed for specific medical problems, and how these amounts could be paid. Members of the Medical Society agreed to cooperate, accepting patient referrals at reduced fees, as suggested by the Bureau's case-worker. These doctors are not reimbursed for the difference between their usual fees and the adjusted charge, and they make their own collections. This plan is aimed at keeping the doctor-patient relationship the same as for full-paying patients.

School Children's Problems

All kinds of medical problems can be handled through the Medical Service Bureau, but early in its operation a particular need was evident, one that was not being met by any dependable resource in the community. This was the provision of glasses for school children whose parents could not afford to pay for them. After some experimental efforts toward obtaining funds for this purpose it was possible through actual demonstration to prove the extent of need, and thus to secure from the Community Chest (now known as United Fund) a basic fund. This was set up for the explicit purpose of buying glasses for children whose parents were screened for eligibility through the Bureau. It was expected that civic groups and parent-teacher units would make additional contributions. As in other cases, these parents pay adjusted fees for medical eye examinations and, in some instances, may repay all or part of the cost of glasses.

Local optical companies help to extend available funds by granting discounts on the cost of glasses. Used frames contributed by groups or individuals can sometimes be used to conserve resources.

Last year 186 pairs of glasses were purchased through the Bureau's fund. The project is growing and this year the number of children fitted will be considerably higher.

Important, too, through this project is the help that can be obtained for children found to need surgical correction, medical eye treatment, or referral to resources such as facilities for the partially seeing. A total of 282 eye examinations were arranged for patients in 1956 and of this number approximately 15 per cent benefited by medical eye care, in addition to the number fitted with glasses.

The 186 recipients of glasses were referred from 84 different schools in the city and county. The age range was from two to 26; six, preschool; 127, elementary school; 37, intermediate; 13, high school and three, college. Of the total 147 were white, 33 Negro, four Mexican and two Indian.

Help for Adults

In 1956, as an experimental project, a revolving fund of $100 was approved by the Community Chest for the purchase of lenses for adults in cases where such help would facilitate the individual's obtaining or holding a job, or where a mother might need vision correction to enable her to carry out family responsibilities. In these cases it is expected that full repayment of the discounted cost of glasses will be made to the agency's fund. It is too early to know how well this phase of the Medical Service Bureau's work will develop, but it may offer a valuable supplement to other community resources.

The long-time continued support of the community for the school children's glasses project would indicate its worth. The many intangible values of sight-saving and corrected vision can only be guessed at in terms of money saved, personality development, and improved learning.

PROGRESS IN KANSAS

Continuing its excellent record of blindness prevention, the Kansas Division of Services to the Blind at Topeka during 1956 gave medical eye care to 336 persons. Of 138 classed as blind, surgery restored sight to 80, and 198 received treatment to prevent blindness. Vocational rehabilitation service was given to 182 blind persons, and 38 of them secured employment.

A very attractive and arresting poster featuring "Danger Signals of Glaucoma" has been issued by the Division. Bearing the slogan "See us . . . while you *can* see," it displays in bold type the following information:

1. Glaucoma begins with no obvious symptoms, and without treatment vision eventually becomes obstructed. If detected early, there is much that can be done about it. An estimated 7,500 Kansans have glaucoma and don't know it!

2. Without treatment you eventually will see only straight ahead, as if you were looking through a pipe. One person out of 50, over 40 years of age, has glaucoma!

3. Finally, all of your sight is taken away and you are blind. There is no way to restore your sight. If you are over 40, see your medical eye specialist once every two years, or sooner if you notice signs of eye trouble!

Lively sketches illustrate the text of the poster.

How About Eyewashes?

Two good reasons for not using proprietary solutions to cleanse or soothe eyes are given in *Consumer Reports* for September 1957. The first is that "no synthetic solution can match natural tears for the specific job of cleansing the eye of small bits of dust, dirt, and irritating material." Moreover, "tears contain a natural enzyme which has mild bactericidal properties."

The second argument against eyewashes is that their temporary soothing effect may mask symptoms of serious disorders. The early stages of chronic simple glaucoma, the blinding disease which can be arrested if diagnosed and treated promptly, may produce the sort of vague eye discomfort for which people buy soothing solutions. The medical consultants of the Consumers Union recommend that any eye irritation, blurring, or "tiredness" that does not clear up within a day or so should be reported to a physician.

These symptoms may also be caused by a general chronic infection such as tuberculosis or sarcoidosis, or an acute infection like measles or the common cold. They may go along with a nutritional ailment such as a riboflavin deficiency. Eye "fatigue" may result from general nervous tension or from ocular defects like astigmatism, myopia or hyperopia. Smarting, inflamed eyes and lids frequently are caused by bacteria and viruses, and can be cured by antibiotics. Or the trouble may turn out to be an allergic sensitivity to dust, molds, or pollens.

Because of the insidious and dangerous nature of chronic simple glaucoma, this article urges prompt medical attention for even slight eye discomfort. The only self-treatment recommended for temporary relief is plain tap water for an eyewash, or iced wet compresses.

NEW TEST FORM

Medical and school forces in Connecticut have tightened up their program for the early detection and treatment of child eye defects. A new test report form, which sets the standards to be used in the annual eye testing of all school children, has been perfected with the help of the Committee on Eye Care of the state medical society headed by Clement C. Clarke, M.D., of New Haven.

One side of the new form contains the results of the school screening test of the child, and space for the report and recommendations of the specialist to whom he may have been referred. The reverse side of the form contains information for the parent, teacher, and nurse about vision standards, symptoms of trouble, and a check list of what to look for in considering the health of a child's eyes.

LABORATORY LESSON

A Cornell University graduate student conducting a chemical experiment in a laboratory was seriously injured recently when a sudden explosion and fire occurred. Flying fragments of glass caused a penetrating eye wound requiring hospitalization and surgery, with possible visual loss.

Hazards comparable to those in industry, for which eye safeguards are required, abound in school and college laboratories and workshops. One hundred per cent eye protection is the only insurance against these tragic accidents.

Principles of Medical Ethics

At the 106th Annual Meeting of the American Medical Association, held in New York City June 3–7, the House of Delegates approved the long-discussed revision of the Principles of Medical Ethics. They now read as follows:

These principles are intended to aid physicians individually and collectively in maintaining a high level of ethical conduct. They are not laws but standards by which a physician may determine the propriety of his conduct in his relationship with patients, with colleagues, with members of allied professions, and with the public.

Section 1—The principal objective of the medical profession is to render service to humanity with full respect for the dignity of man. Physicians should merit the confidence of patients entrusted to their care, rendering to each a full measure of service and devotion.

Section 2—Physicians should strive continually to improve medical knowledge and skill, and should make available to their patients and colleagues the benefits of their professional attainments.

Section 3—A physician should practice a method of healing founded on a scientific basis; and he should not voluntarily associate professionally with anyone who violates this principle.

Section 4—The medical profession should safeguard the public and itself against physicians deficient in moral character or professional competence. Physicians should observe all laws, uphold the dignity and honor of the profession and accept its self-imposed disciplines. They should expose, without hesitation, illegal or unethical conduct of fellow members of the profession.

Section 5—A physician may choose whom he will serve. In an emergency, however, he should render service to the best of his ability. Having undertaken the care of a patient, he may not neglect him; and unless he has been discharged he may discontinue his services only after giving adequate notice. He should not solicit patients.

Section 6—A physician should not dispose of his services under terms or conditions which tend to interfere with or impair the free and complete exercise of his medical judgment and skill or tend to cause a deterioration of the quality of medical care.

Section 7—In the practice of medicine a physician should limit the source of his professional income to medical services actually rendered by him, or under his supervision, to his patients. His fee should be commensurate with the services rendered and the patient's ability to pay. He should neither pay nor receive a commission for referral of patients. Drugs, remedies or appliances may be dispensed or supplied by the physician provided it is in the best interests of the patient.

Section 8—A physician should seek consultation upon request; in doubtful or difficult cases; or whenever it appears that the quality of medical service may be enhanced thereby.

Section 9—A physician may not reveal the confidences entrusted to him in the course of medical attendance, or the deficiencies he may observe in the character of patients, unless he is required to do so by law or unless it becomes necessary in order to protect the welfare of the individual or of the community.

Section 10—The honored ideals of the medical profession imply that the responsibilities of the physician extend not only to the individual, but also to society where these responsibilities deserve his interest and participation in activities which have the purpose of improving both the health and the well-being of the individual and the community.

NOTES AND COMMENT

• Traineeships Available

The National Institute of Neurological Diseases and Blindness at Bethesda, Maryland, has announced a new program for the advanced training of research scientists in its special field. Under a previous program, 75 scientists received advanced clinical training during the last fiscal year. The new project allows a choice between clinical or basic research training in ophthalmology.

The individual awards are made for a maximum of one year, but are subject to renewal for a period of three years. The stipends range from $5,500 to $14,800 a year, and the trainee may chose any qualified institution in the United States or abroad for his advanced studies.

Richard Lambert Masland, M.D., a neurologist and psychiatrist, has been appointed assistant director of the Institute. Before his appointment, Dr. Masland was professor of neurology and psychiatry at the Bowman Gray School of Medicine, Winston-Salem, North Carolina. Also announced are two new appointees to the 12-member National Advisory Neurological Diseases and Blindness Council, which aids the Surgeon General and the National Institute in the awarding of grants to medical schools, universities, and hospitals for research projects or training in the field of neurological and sensory disorders. The new members, who will serve four years, are Dr. James O'Leary of St. Louis, Missouri, and Dr. Kenneth Lynch, president of the Medical College of South Carolina in Charleston.

• More for Eye Care

A steady increase in family spending for eye care and glasses is reported in the Consumer Price Index of the Bureau of Labor Statistics. The index is based on wage-earner and clerical-worker families, and is adjusted for price rise. Taking the period 1947–49 as 100 per cent, spending for eye examinations and spectacles was 87.2 in 1927, and by 1956 had increased to 111.2. The expense of eye care is relatively small in the family medical budget, amounting to 4 per cent in 1950 as compared with 15 per cent for dental care. In that year the expenditure per family for all medical care was nearly two and a half times what it was in 1934.

As published by the U. S. Department of Labor, this index is expressed in percentages, and does not supply the actual amounts spent.

• Florida Reports Gains

Sight was restored and blindness prevented for 235 persons during the fiscal year ending June 30, 1957, the Florida Council for the Blind announces. This state agency has offices in Tampa, Daytona Beach, Miami, and Pensacola, and carries on a vigorous educational campaign climaxed in an annual Prevention of Blindness Week. During the year the Council referred 1,895 persons for eye examinations, of whom 351 underwent surgery and 222 were given glasses or prosthesis. These were preventive services; the Council also rehabilitated many individuals who needed medical care. Altogether about 43 per cent of the

During Baltimore's Community Services Week, March 17–23, sponsored by the local Council of Social Agencies, this effective exhibit was displayed in the main window of Hutzler Brothers department store. The exhibit informed viewers about the community resources for eye care and the education of the visually handicapped.

year's budget was spent on medical examinations, treatment and surgery, and hospitalization. Emphasis was placed on early diagnosis and correction of eye troubles in children referred to the Council by other agencies. Of 705 given examinations, 162 received surgery and hospitalization.

• "G" Day in Santa Ana

A mass screening for glaucoma held in Orange County, California on February 28, 1957, opened the eyes of public health authorities. They were surprised at the more than 1,000 persons who arrived in a pelting rain, and they were gratified at the swift and orderly way the eye examinations were conducted. As Harold Gustafson, health educator of the county health department, remarked in an article in *California's Health* for June 15: "We found 'G' Day to be a worthwhile project, well within the means of the average health department. . . . The demonstration project pointed up a vast and somewhat new field in prevention."

Cooperating in the program were the county health and welfare departments, the local medical society, the Lions Clubs and the California Chapter of the National Society for the Prevention of Blindness. During the previous months lectures on glaucoma were given widely, and those wishing to have eye examinations were given definite appointments, which simplified procedures on "G" Day.

Of the 1,023 persons screened, 192 were referred for more extensive examination. When the above report was written, 80 of them had completed their follow-up and 20 previously unsuspected cases of glaucoma were diagnosed.

• Caracas Congress Plans

Plans are well advanced for the Sixth Pan American Congress of Ophthalmology which will be held in Caracas, Venezuela, January 31 to February 7, 1960. The government and all the universities of Venezuela are already making preparations for the entertainment of ophthalmologists from the Western Hemisphere. The executive committee, headed by Professor Jesus Rhode, is planning a wide scientific program which will include visits to surgical clinics. Among the European specialists who have accepted invitations to be present are Sir Stewart Duke-Elder and Professor Rudolph Thiel.

Papers will be presented in symposia on virus diseases, strabismus, congenital anomalies, toxoplasmosis, retinal detachment, and advances in therapeutics. Round-table discussions will emphasize the treatment of infectious eye diseases and the surgical management of strabismus, cataract, and glaucoma. Papers on these subjects and on topics chosen by the author should be sent at least six months before the congress to Dr. James H. Allen, Department of Ophthalmology, Tulane University of Louisiana, 1430 Tulane Ave., New Orleans 12, La., or to Dr. Rhode, Box 5666, Chacao, State of Miranda, Venezuela.

Franklin M. Foote, M.D., center, NSPB executive director, presents to Lawrence H. Hinds, American Legion national executive committeeman, a Certificate of Appreciation for the Legion's Child Welfare Foundation grant which made possible a new film, "Fair Chance for Tommy." At right, State Senator Thomas C. Hasbrook, member of board of directors of Indiana Chapter, NSPB. Ceremony was held in Indianapolis on November 15. The film deals with the education of partially seeing children.

• Eye Troubles among Indians

An appallingly high incidence of blindness and serious eye defects among reservation Indians was revealed in a Public Health Service report published early in 1957. Frequency of visual defects, especially among Indians under 25 years of age, was from two to five times greater than among white and Negro low-income groups previously examined.

In order to plan a health program for the half million or so indigenes of the United States and Alaska, an intensive survey was made of eye diseases on five reservations. Chronic visual defects ranged from 234 to 496 per 1,000 persons examined, depending on the reservation. Of the 1,412 examined, 56 were blind, with trachoma and cataract the chief causes. Especially striking was the high rate

of visual troubles among the younger age groups; three-fourths of the children from five to nine had defects as against half for all age groups.

The old Indian enemy, trachoma, has not been eliminated despite vigorous campaigns. Current active cases ran nearly 18 per cent on one reservation, nearly all among children.

A bad feature of the situation was the lack of medical and preventive care. Of the 56 cases of cataract found, only two had had surgery.

• Dr. Woods in South America

Dr. Alan C. Woods was a guest speaker at a number of Latin American medical schools during the winter of 1957. At the invitation of the Escola Paulista de Medicina in Sao Paulo he gave five lectures on uveitis which were widely attended by Brazilian ophthalmologists. In Montevideo, Dr. Woods spoke as the guest of the medical college of the University of Montevideo; his lectures in Buenos Aires were sponsored by the medical college of the University of Buenos Aires; further papers were presented in Santiago, Chile, and at the University of San Marcos de Lima, Peru.

• Screening in Butler County

In the second annual preschool vision screening program conducted during the spring and summer of 1957 by the Butler County Branch, Pennsylvania Association for the Blind, 2,026 children of age three and over were tested. The Massachusetts Vision Test was used under the supervision of Mrs. Dorothy B. Fleeger, eye health educator of the Association.

Preliminary results of this study show that 1,634 children, or 80.6 per cent, satisfactorily passed the test; 318, or 15.7 per cent, were suspected of having visual problems and were referred for further evaluation. Seventy-four did not cooperate sufficiently to take the test.

Parents of children who satisfactorily passed the test were notified at the time of testing. Those suspected of having difficulties were referred for eye examinations. The latter group is being closely followed to make sure that recommendations are being carried out.

Careful interpretation of the purposes and limitations of the screening process was made to each parent.

LEWIS W. DOUGLAS HONORED

Lewis W. Douglas, former Ambassador to Britain, was awarded an honorary Knight Grand Cross of the Order of the British Empire by Queen Elizabeth II in a ceremony at the British Embassy in Washington on October 19. Mr. Douglas, banker-industrialist of Sonoita, Arizona, is chairman of the English-Speaking Union, and honorary president of the National Society for the Prevention of Blindness. He is distinguished for his many other outstanding public services and contributions to international understanding.

HENRY A. COLGATE

Henry A. Colgate, investment specialist and civic leader, died in New York City on October 16 after a short illness. He was 67 years old.

Mr. Colgate was a partner in Wood, Struthers and Company; a director of Colgate-Palmolive Company and of International Paper Company. Since 1950 he had served as a director of the National Society for the Prevention of Blindness, to whose work he gave strong support.

Mr. Colgate was a member of the board of trustees of Colgate University, the Boys Club of New York and the Ophthalmological Foundation. For the last 17 years he had served as president and chairman of the board of trustees of Seeing Eye, Inc.

The board members and staff of the National Society feel a deep sense of loss at his passing.

R. M. ATWATER, M.D.

Dr. Reginald Myers Atwater, distinguished executive secretary of the American Public Health Association since 1935, died in Bronxville, N. Y., on October 18, at the age of 65.

A native of Canyon City, Colorado, Dr. Atwater was graduated from Colorado College and received his medical degree from Harvard University. As a fellow of the Rockefeller Foundation, he earned the degree of Master of Public Health from Johns Hopkins University in 1920 and a doctorate in public health there a year later.

Before joining the Association he was associate professor of hygiene at Hunan-Yale College of Medicine in Changsha, China; instructor in preventive medicine and hygiene at Harvard Medical School; instructor in epidemiology at Harvard School of Public Health; and commissioner of health for Cattaraugus County, N. Y.

Dr. Atwater was managing editor of the *American Journal of Public Health*, a special consultant to the U. S. Public Health Service and a board member of the National Health Council.

JAMES D. MOONEY

James D. Mooney, head of James D. Mooney Associates, industrial consultants, and a member of the board of directors of the National Society for the Prevention of Blindness, died in Tucson, Arizona, on September 21, at the age of 73.

Throughout his six years of service as a director of the National Society Mr. Mooney showed deep interest in its work and took an active part in formulation of policies and program development. He was particularly helpful in furthering activities in the industrial field, in which he was highly respected. His loss will be felt keenly.

FRANK E. BURCH, M.D.

Dr. Frank E. Burch of Duluth, Minnesota, died in that city on July 2 at the age of 81. He was a retired professor of ophthalmology at the University of Minnesota School of Medicine and a past president of the American Academy of Ophthalmology and Otolaryngology.

Dr. Burch was a leader in organizing the Minnesota Society for Prevention of Blindness. He also served as a consultant to the National Society for the Prevention of Blindness from 1940 until the time of his death, giving valuable advice on its program.

The 18th Annual Meeting of the Minnesota Society, held October 30, was dedicated to Dr. Burch's memory, and many tributes were paid to his devoted service. A program note read:

"There are . . . many thousands who may never realize what they owe to his early interest in the prevention of blindness. That this Society survived the struggles inherent to the founding of any new organization is due to the interest, tact and guiding wisdom so characteristic of Dr. Burch. He recognized and accepted the fact that preventive eye work must lack the dramatic appeal offered by work for the blind. His plans from the first centered on educating the public as to the possibilities of blindness prevention and he foresaw for the Minnesota Society for Prevention of Blindness a steadily growing program which would demonstrate throughout, to the people of our state, the valuable results of such preventive work."

Measles Virus Enters through Conjunctiva

A series of experiments reported in the *Bulletin* of the New York State Department of Health for March 11, 1957 reveals that contamination of the conjunctival mucous membrane by measles virus is perhaps the only way in which the virus enters the body.

Three non-immune children whose eyes had been closely sealed off with spectacles adapted to the contours of the face were brought into close contact with a patient suffering from measles in the most infectious stage. None developed the disease.

In another group of 18 non-immune children exposed to measles prevention of this infection was achieved in 15 by instilling a drop of convalescent measles serum into each eye within six hours of contact. Three others who received this antibody only 17–24 hours after exposure subsequently developed measles.

This discovery of transmission of infection suggests new possibilities in prophylaxis through use of convalescent serum and gamma globulin.

PREVENTION—OUR MAJOR WEAPON

We must always keep in mind that "prevention" is the basic key that will unlock the door on our way to the solution of chronic disease; that is, prevention of the disease itself or the progression of disabilities resulting from it.

Preventive measures against the onslaught of chronic illness are making progress. Today we can prevent many chronic diseases as well as halt the progression of a disease from its early unrecognized stage to a more severe one. Our aim should be to prevent patients from requiring the need to enter institutions rather than just build new ones and then try to fill them up. Prevention and early rehabilitation measures are cheaper than the crushing expense of facilities for custodial care of the disabled and public assistance to them and their families.

The greatest advances in medicine have been made by the prevention and control and not by the cure of disease. The greatest advance in public health in this era of modern medicine will be through community health services. Research into the methods of disease prevention is valueless unless it is promptly accepted and utilized by the community for the purpose for which it is intended—to save life and promote and maintain good health.

A. J. Tutles, M.D., M.P.H.

"The Public Health Aspects of One Hundred Years of Medical Progress in New England" —*Connecticut Health Bulletin*, January 1957.

AROUND THE WORLD

ENGLAND

Proctor Medal. Dr. Norman Ashton, director of pathology at the Institute of Ophthalmology, London University, last June was awarded the Proctor Medal for his research in the pathogenesis of retrolental fibroplasia and other eye diseases. He is the first scientist outside the United States to receive the award, which is made annually by the Association for Research in Ophthalmology. It is a memorial to Dr. Francis I. Proctor, who left his private practice in Boston to devote himself to eliminating trachoma in this country.

INDIA

Medical Practice Described. An American ophthalmologist, Dr. Richard A. Ellis, reports on the formidable task of modernizing medicine in India and Pakistan in an article in the *Pennsylvania Medical Journal* for July, 1957. During a tour as guest surgeon with medical missionaries he became familiar with the problems facing his Indian colleagues. He noted one challenging fact: 85 per cent of the population live in villages, but the few qualified physicians are concentrated in the cities.

Thus hundreds of millions of people are dependent on quacks. Dr. Ellis encountered one who had a "medical diploma" received after a week's course, and was running a private hospital thronged with patients. However, more fortunate patients with eye troubles could be helped by the medical missionaries who tour the hospitals and also set up "eye camps" where surgery is performed.

The visiting ophthalmologist found all the eye diseases prevalent in the United States, and many others rarely if ever seen at home. Night blindness and keratomalacia from vitamin A deficiency, trachoma, eye involvements of smallpox and leprosy, and a great variety of eye infections were common. Cataract extraction was the most frequent operation, and the next was glaucoma surgery. Like other Americans who have acted as guest surgeons, Dr. Ellis was amazed at the success of most of the operations despite the rugged conditions. One shortcut was the issuing of uniform cataract glasses to all except the very few patients who were literate and needed lenses for reading.

SWITZERLAND

WHO Extends Programs. Considerable progress in the fight against blinding diseases was reported by delegates to the Tenth World Health Assembly, held in Geneva from May 7th to 24th. The campaign in Tunisia for the control of conjunctivitis is considered a great success, eliminating the cause of 90 per cent of the cases of blindness. During epidemic periods the Tunis Trachoma Institute treats about 1,000 patients daily. Similar drives in Morocco have produced excellent results.

The Indonesian delegate reported that a satisfactory technique for the mass treatment of trachoma is still being sought. In Syria the drugs used in the antimalarial campaign were suspected by the delegate to increase the breeding of flies, with a consequent rise in the incidence of trachoma.

A tremendous preventive program was reported from Taiwan, where 1,200,000 school children had been treated with antibiotics by the summer of 1956. On this island trachoma affects from 45 to 85 per cent of the population, depending on the district. The delegate expressed his belief that in Taiwan, unlike other countries, seasonal conjunctivitis and trachoma appear to have no increase during the fly-breeding season.

THAILAND

Prediction on Trachoma. In fifteen years trachoma will cease to be a major health problem throughout Asia, S. M. Keeny, director of the Asia region for UNICEF, predicted in an address to the American Association of Thai at Bangkok recently. Expert samplings indicate that there may be 100 million cases in Asia today, but the cure is largely one of organization, and once campaigns are launched the job can be pushed rapidly.

One of the antibiotics—aureomycin or terramycin—has proved most effective. In the schools the teachers give the local applications, and teach the children to treat each other. Eventually the whole family must be reached.

In Taiwan about a million school children out of two million have already been cured, Mr. Keeny said. Besides trachoma, his timetable for breaking the backs of the ancient enemies of Asia are five years for yaws, 10 for malaria, and 25 for tuberculosis and leprosy.

UNION OF SOUTH AFRICA

Huge Drive Begins. The greatest prevention of blindness campaign ever undertaken in South Africa has been launched in the Potgietersrust Native Reserve in northwest Transvaal. No less than 40 centers will give mass treatment for trachoma to Bantu children under the direction of the Bureau for the Prevention of Blindness of the South African National Council for the Blind. The principal drug firms of South Africa have made generous contributions of supplies.

Since early in August 1957 five ophthalmic surgeons have been at work in the Reserve. Reports on the first thousand children examined show a trachoma incidence of 87 per cent in the age group under seven years, 66 per cent in those from seven to twelve years, and from 39 to 52 per cent in the teenage groups.

While this campaign is in difficult terrain the Bureau has broached a far more arduous effort to help the neglected Bushmen of South-West Africa. These nomads are about as wild as their ancestors of three centuries back, living without shelter on the bleak veld. To a Bushman blindness means death, for he cannot keep up with the wanderings of his tribe, who leave him to perish alone. Mr. S. K. Wentworth, secretary of the Bureau, and an ophthalmologist in September 1957 managed to examine and treat more than a thousand savages, who were intelligent and grateful. The incidence of eye disease was high, especially among the children, and despite the rugged conditions the Bureau plans to start preventive work in the mandate.

REPRINT—The article "Classroom Methods and Materials for the Partially Seeing" by Anthony J. Pelone has been reprinted from the Fall Issue of the REVIEW and is available at 5 cents per copy.

CURRENT ARTICLES

Glaucoma and the General Practitioner. M. Y. Horsley. *California GP*, Vol. 8, p. 19. May 1957.

Since September 1956 tonometer testing for the elevation of intraocular pressure has been taught to 230 eighth-quarter medical students in the Ophthalmologic Clinic of the University of Tennessee School of Medicine. Each medical student, while in the eye clinic, takes no less than eight or 10 intraocular pressures by himself.

A study made at the same school, sponsored jointly by its Departments of Ophthalmology and Preventive Medicine and financed by a grant from the National Society for the Prevention of Blindness, had the specific purpose of investigating the need for routine tonometry on all patients over 40 years of age.

In 1,210 persons without eye symptoms, going through various clinics of the out-patient department, 346 elevated tensions were noted. Of these 166 were retested and 44, or 3.7 per cent, were found to have glaucoma. During the same time interval 46 new cases of glaucoma were found in the eye clinic. The cases diagnosed in the ophthalmological clinic had far advanced glaucoma with marked visual loss, while most cases detected in the out-patients still had good vision.

Corneal Radius in Primary Acute Glaucoma. R. Törnquist. *British Journal of Ophthalmology*, Vol. 41, p. 421. July 1957.

The corneal radius of curvature is about four per cent less in eyes with primary acute glaucoma than in normal eyes, and along with a shallow chamber, on the average 30 per cent less than normal, reveals a disproportion in structure which evidently is a predisposing factor in the disease. The author measured 146 glaucomatous eyes and 398 normal eyes, and found the average corneal radius of the former was 7.53 ± 0.023 mm. as compared with 7.78 ± 0.015 mm. in normal eyes.

Since acute glaucoma is found more often in elderly women than in other individuals, they predominated in the series. Accordingly the glaucoma series was compared with 98 normal eyes of women aged 50 to 65 years, and the difference was still significant. A comparison was made between 76 glaucomatous and 57 normal eyes with a chamber depth of the same magnitude (between 1.5 and 2.1 mm.), and the average corneal radius remained close to the figures above. Measurements in 47 cases of uni-ocular acute glaucoma showed an insignificant difference in radius between the diseased and well eyes. This suggests that the smaller corneal radius is a result of genetic factors, and is not produced by the acute attacks themselves.

The Multiple-Pattern Tachystoscopic Visual Field Screener in Glaucoma. W. Roberts. *A.M.A. Archives of Ophthalmology*, Vol. 58, p. 244. August 1957.

In a study of 1,500 subjects the author evaluated the Harrington-Flocks tachystoscopic multiple-pattern screener as against the tangent screen. The series included 67 previously known early glaucoma cases and 33 suspected cases; the remainder were unselected office examinations.

In the series there were 133 positive tachystoscopic tests, of which 23 were explained by other ocular or central nervous system pathology and 40 were regarded as false or arising from undetermined pathology. Of the 40 new and previously unsuspected glaucoma cases (subsequently established by a complete work-up) the tachystoscopic screener found 31, as against 28 found by the tangent screen. In the group of 67 known cases the correlation was again close, 39 to 41. The results in the 33 glaucoma suspects did not correspond so closely.

The author concludes that the newer method is not only a quick and sensitive tool in detecting glaucoma, but is reasonably accurate for case-finding in mass screening. It consumes much less time than the classic methods, and can be used by lay helpers.

Various Syndromes Associated with Visual Field Changes. P. J. Leinfelder. *Journal of the Iowa State Medical Society*, Vol. 47, p. 628. October 1957.

Typical visual field defects indicate lesions in definite areas of the visual pathway. Atypical defects may also help diagnosis if they are recognized as syndromes associated with intracranial disease.

As a rule the central scotoma is caused by disease of the optic nerve or central retina, and the reduction of visual acuity is in proportion to the size of the scotoma. However, inaccuracy in fixation may reduce the apparent size of the scotoma; the longer poor central vision persists the harder it is to establish the true size of the scotoma. Difficulties in distinguishing retrobulbar neuritis from papillitis or low frontal-lobe tumors are discussed.

Tumor of the pituitary often causes changes in the temporal fields, but when the tumor is above the sella turcica the changes are less obvious. One early clue may be a central defect in the field of one eye; then repeated study of the visual fields shows a gradual contraction developing in the lower temporal quadrant on the side of the central scotoma, followed by loss in the periphery of the inferior temporal quadrant of the opposite eye.

Homonymous changes in the fields of each eye indicate lesions of the visual pathway posterior to the chiasm. Hemianopic defects may be accompanied by other manifestations of brain injury such as aphasia or sensory and motor disturbances of the arms and legs. Occipital lobe lesions, particularly in the early stage of tumors, often cause defects in the visual fields.

Prevention of Retrolental Fibroplasia in Arkansas. J. W. Eliot. *The Journal of the Arkansas Medical Society*. Vol. 53, p. 323. April 1957.

In an effort to establish procedures for safe limitation of oxygen administration to premature infants the Maternal and Child Health Division of the Arkansas State Board of Health conducted a survey of retrolental fibroplasia prevention in Arkansas hospitals. Questionnaires concerning the use of oxygen analyzers and routine oxygen therapy were sent to the administrators of 118 hospitals.

Replies from 93 of them, or 91 per cent of the state's total bassinet capacity, indicated that 26 already own and use some type of oxygen analyzer and 18 others are planning to purchase such equipment. Sixteen institutions

do not have analyzers and do not limit the use of oxygen to babies who are cyanotic without it. Eleven hospitals did not state their criteria for giving oxygen and four still routinely administer oxygen to all premature infants. It is the author's opinion that these hospitals may be in substantial danger of inflicting retrolental fibroplasia on some of the premature infants in their care.

Further evaluation of oxygen limiting devices other than the analyzer proved that these limit oxygen in the incubator to less than 40 per cent. The Health Division nevertheless recommends that these devices be purchased in addition to rather than instead of oxygen analyzers.

Oxygen Studies in Retrolental Fibroplasia. VI. The Effect of Concentration and Duration of Exposure to Oxygen on the Immature Mouse Eye. A. Patz and A. B. Eastham. *American Journal of Ophthalmology*, Vol. 44, p. 110. October 1957.

The duration of exposure to oxygen is an extremely important factor in producing lesions in the mouse eye. Even levels considered safe in the premature nursery should be used with caution. In a study with newborn albino mice a 40 per cent concentration produced ocular lesions after exposures beyond seven days.

Mice exposed to 30 per cent oxygen showed no lesions after a stay of 21 days. Animals given 40 per cent showed no retinal damage up to and including seven days, but it was notable that the deeper vascular net of the retina had failed to develop. This confirmed an observation first reported by Hellström. In mice left at this level for ten days, four of 40 revealed ocular hemorrhages. At 14 days, five of 24 showed ocular hemorrhages and neovascular budding into the vitreous.

At higher concentrations ocular damage was more frequent and severe. At 60 per cent, no lesions were noted during the first four days, but at five days' exposure 10 per cent of the animals showed lesions, and all were affected after an exposure of seven days.

These data suggest the possibility of a cumulative effect of prolonged exposure. In previous experiments to study the effect of rapid versus gradual withdrawal from oxygen it was found that after an initial nontoxic exposure, the added oxygen during the "weaning" was enough to injure the animal eye.

This study was aided by grants from the E. Matilda Ziegler Foundation for the Blind and the National Society for the Prevention of Blindness.

Watch that Oxygen! A. McLaughlin. *R. N., a Journal for Nurses*, Vol. 20, p. 56. November 1957.

Nurses in premature nurseries still have much to learn about so controlling oxygen as to avoid all danger of RLF. The author, nursing supervisor at Bellevue Hospital Premature Care Center in New York City, describes procedures adopted there since the 1953 national cooperative study, and under which no baby has been blinded.

Warmed, humidified room air is circulated through the incubators. Oxygen is given only under the direct order of the chief resident, and is used at the lowest possible concentration and duration, simply enough to keep the baby pink. A baby who is cyanotic

at 20 per cent concentration may be perfectly all right at 24 per cent. The oxygen concentration cannot be measured by liter flow precisely enough; an analyzer should be used at intervals, with the tubing close to the infant's body, to keep a check on how much he is actually receiving. At least once during each nurse's time on duty the oxygen is cut off, and it is resumed only if the baby again becomes cyanotic. Careful watching is essential under this system, and the nurse's responsibility has greatly increased.

Frequency of Defects in Infants Whose Mothers had Rubella During Pregnancy. M. Greenberg, O. Pellitteri, and J. Barton. *Journal of the American Medical Association*, Vol. 165, p. 675. October 12, 1957.

Early studies have fantastically exaggerated the incidence of defects, including eye anomalies, among infants of mothers who had rubella during pregnancy. Such estimates, giving a 90 to 100 per cent chance of abnormalities, were based on retrospective studies of malformed babies which did not take into account normal births.

The authors conducted a prospective study in New York City from 1949 to 1955 which followed up 233 pregnant women whose rubella had been diagnosed by a physician. Their liveborn infants were checked at birth and about a year later. Among the 104 women who had rubella during the first trimester of pregnancy, 48 had therapeutic abortions, 10 were lost from the study, 28 had normal births, and there were 15 fetal deaths. Of the 31 liveborn babies, three were congenitally malformed; all three had bilateral cataracts and one also had microphthalmus. The mothers of these infants had rubella during the fourth week of pregnancy.

Of 89 mothers who had rubella in the second trimester only one gave birth to a malformed child. The group of 41 who had the disease in the last three months of pregnancy had normal babies.

The incidence of rubella-caused deformities of 10 per cent for the first group was compared with 7 per cent of congenital malformations found in a study elsewhere in New York City of women who did not have rubella. However the malformations associated with the "rubella syndrome"—defects of the brain, heart, eyes and ears—had an incidence in the control group of only 1.9 per cent.

It appears that routine therapeutic abortion in early cases of rubella is not medically justified, if the odds of having a defective child are only one in ten. Girls should be exposed to rubella in childhood, and gain life immunity to the disease.

Ophthalmological Findings in Children with Cerebral Palsy. W. S. Schachat, H. M. Wallace, M. Palmer and B. Slater. *Pediatrics*. Vol. 19, p. 623. April 1957.

Recent reports by Breakey and Guibor citing relatively high frequency of eye defects in children with cerebral palsy prompted this study in New York City. Of 98 children, age four to ten, attending four special public school units, 67 were found to have either gross ocular defects or significant refractive errors, or both. Forty-three had strabismus, approximately evenly divided between esotropia and exotropia. Seventeen had a visual handicap severe enough to warrant special educational measures. Children with

spastic types of cerebral palsy had twice as many ocular defects and twice as many refractive errors as the athetoid types.

Only 20 children were known to be under the care of an ophthalmologist. Definite ophthalmologic recommendations for 69 of the pupils were thought to be necessary. These findings indicate the need for inclusion of an ophthalmologist in the team responsible for the care of the child with cerebral palsy.

The Patient with Retinal Detachment. G. Clark and C. L. Shaw. *The American Journal of Nursing*, Vol. 57, p. 868. July 1957.

Intelligent nursing care may often be the deciding factor in surgery for retinal detachment. Advances in operating techniques are now resulting in a complete cure in about 75 per cent of the cases, and there has also been a transformation in nursing procedures. While the patient is now allowed more freedom of motion, he must be given careful and intelligent nursing before and after surgery. Since he wears a mask or pinhole glasses preoperatively, he must be fed, bathed, and helped in many ways. Doctor and nurse need to work with each other and with the patient to combat the fears and depression which are natural in his situation. A tranquilizing drug and the newer sedatives can be a great help.

With the new surgical techniques the retina is firmly in place after the operation, and the patient at Columbia-Presbyterian Medical Center is allowed slow movements and a comfortable position in bed. The eyes are bandaged for about a week, but ambulation might begin on the second day, since it has proved beneficial to the patient's mental and physical status. If all goes well, he can leave the hospital in about two weeks, and be ready for normal work within three months.

Rapid and Accurate Ophthalmoscopic Determination of Circulatory Arrest. J. Kevorkian. *Journal of the American Medical Association*, Vol. 164, p. 1660. August 10, 1957.

In cases of sudden cardiac arrest ophthalmoscopy may help the physician to make a quick decision which will save the patient's life. Disappearance of the retinal arteries and segmentation of venous blood occur a few seconds after circulation stops. For several minutes these segments continue to move, and during this interval manual or electric resuscitation of the heart may be undertaken. Of equal diagnostic value is the absence of these marked retinal changes, which indicates that the heart is still beating. In that case opening the chest is contraindicated.

The author describes eight cases of cardiac standstill during operations under hypothermia when retinoscopy proved valuable in guiding the physician to the right decision.

Tobacco Amblyopia. H. S. Hedges. *Medical Times*, Vol. 85, p. 1151. October 1957.

Loss of vision due to smoking has been known since 1792, but of late there has been little mention of it. In the author's practice in Charlottesville, Virginia, he has encountered all stages of toxic amblyopia which cleared up in a few weeks when smoking was stopped. In tobacco eyes the first symptom is usually premature presbyopia. Women patients also complain of cold finger tips after the first cigarette in the morning, and a deli-

cate thermometer shows a fall in temperature. Often the flow of blood in the arterioles will fall 30 per cent in women, and 10 per cent in men.

Another symptom is a central loss of red and green. In the test described the color fades in the center of the field in early stages of tobacco amblyopia, and by the time industrial blindness is reached, all central red and green is lost. Filters in cigarettes remove some of the tar, but are ineffectual as regards nicotine.

Management of Intraocular Malignancy. The Gifford Memorial Lecture. E. B. Dunphy. *American Journal of Ophthalmology*, Vol. 44, p. 313. September 1957.

New concepts of dealing with tumors in the eye give the physician alternatives to enucleation in certain special cases. The author sees an expanding future for chemotherapy, diathermy, hormonal control, and the use of radioisotopes. He discusses retinoblastomas, malignant melanomas of the uveal tract, and metastatic tumors.

At least one case in four of retinoblastoma is bilateral, and the physician should keep the apparently normal eye under observation for at least three years. Also, the baby of a known survivor of the disease should be examined at birth and frequently thereafter in order to deal with a possible tumor in its early stages. There is then a chance of saving the eye by chemotherapy, irradiation, or diathermy. A combination of the first two methods has proved to have a synergistic action.

The author believes that diathermy deserves attention. Of eight cases so treated in the Massachusetts Eye and Ear Infirmary, six have come out very well. Diathermy by the method described here has the advantage of a direct attack, is less time-consuming than radiation plus chemotherapy, but is not indicated in very large tumors, or those near the optic nerve.

Malignant melanomas are not radiosensitive, and immediate enucleation has seemed the only course. However, there are cases where even large tumors do not metastasize. A woman carried a malignant melanoma of the ciliary body in one eye for 14 years, and was in excellent health when she came to the author for treatment. In certain special cases such as a one-eyed patient or positive refusal of enucleation, diathermy may be attempted. Chemotherapy for this disease is still experimental.

In metastatic tumors, especially those of the breast and prostate, real progress has been made by hormonal control. Several cases are now on record where combined surgery of the ovaries and adrenals has arrested choroidal metastasis.

Allergic Diseases of the Eye. H. C. Leopold and I. H. Leopold. *Pennsylvania Medical Journal*, Vol. 60, p. 842. July 1957.

In eye diseases of dubious origin it is well to keep in mind the possibility of an allergic etiology, especially if the patient has a history or has an inheritance of allergic reactions elsewhere in the body. The authors present charts of eye allergies compiled from the reports of several leading ophthalmologists. The lids, conjunctiva, and cornea show many allergic manifestations caused by irritants, foods, drugs, or endogenous agents: bacteria and bacterial products.

In the uvea, there are other possibilities. Sympathetic ophthalmia may be caused by uveal pigment acting as an allergen, and endophthalmitis phacoanaphylactica may arise from the absorption of lens proteins after an extracapsular extraction.

The ideal therapy is to find the offending allergen, and then either eliminate it or desensitize the patient to it. Palliative procedures include the use of epinephrine, antihistaminics, and steroids, especially prednisolone.

Effects of Age on Visibility. S. K. Guth. *American Journal of Optometry*, Vol. 34, p. 463. September 1957.

With the age of the working population steadily increasing it is important to determine what lighting conditions older workers require. The results of this study indicate that they need more illumination than younger persons, but with adequate light they can achieve the same visual abilities as younger workers.

The aim of the study was to determine the number of footcandles required for specific visibility levels by a series of 100 subjects ranging in age from 17 to 65. They were placed on an equal refractive basis by checking with the sensitometric method, and those needing added correction for optimum viewing at 16 inches were given stronger lenses. Of the group, 38 were presbyopic, but none had pathological eye conditions. The observers were to recognize 10 words printed in 6-point type and presented one at a time at random. Footcandle levels ranged from 10 to 100.

As illumination was increased all age groups benefited. Raising the footcandles from 20 to 80 improved maximal visual ability of the youngest group (17 to 20) by 65 per cent, but the age group from 61 to 65 benefited much more, at a rate of 135 per cent. Certain visibility levels, designated as 3, 4, 7, and 10 were established. The youngest group had a visibility level of 5 with 30 footcandles, but the oldest group needed nearly 60 footcandles to reach this level. The need for more light increased markedly at about age 45 to 50.

It was found that the older observers needed 30 per cent more brightness difference than the younger. All but the oldest group required about the same percentage change in light for a given improvement in visibility, but the oldest group needed a progressively smaller increase in footcandles to reach higher visibility levels. As all were given higher footcandle levels, individual differences became less, and it is concluded that workers of all ages can be expected to achieve about equal visibility levels if the illumination is strong enough.

Psychiatric Aspects of Diseases of the Eye, Ear, Nose, and Throat. M. J. Barry, Jr. *International Record of Medicine*, Vol. 170, p. 582. October 1957.

Through his special senses man continually tests reality; as part of society communication with others is essential. Diseases of sight and hearing in particular decrease his ability to orient himself in his environment and to be emotionally together with others. Anxiety or psychosis may result. In extreme form this isolation is seen in schizophrenia, with the patient wandering alone in the labyrinth of his own ego. The eye and ear specialists are often involved with patients who suffer from the impairment of ability to

check reality and to communicate. While the psychiatrist with his special skills may be of great help, the "science of sympathy" can be developed by all physicians in dealing with those patients deprived of a special sense.

In an experiment with healthy young college students Hebb showed the dramatic results of sensory isolation. Wearing frosted glass goggles and with ears and hands covered, they were confined in comfortable cubicles—and artificial psychoses developed. Visual perception was strangely altered; objects became vivid, but impaired in relation to other objects and the background. The subjects developed visual hallucinations rather like those induced by mescal. They lost ground mentally. Simply by cutting them off from the normal inflow of sensations and contact with the world they became temporarily psychotic. The author describes similar reactions in patients after eye surgery.

Differential Effects of Total Blindness and Partial Sight on Several Personality Traits. H. Greenberg and S. Jordan. *Exceptional Children*, Vol. 24, p. 123. November 1957.

Does a totally incapacitated person have a better chance for successful adjustment than one less handicapped? This question was suggested by a 1951 report of Kurt Goldstein comparing two dogs, one with a total amputation of a leg, the other with a partial amputation of a leg from the knee. The former adjusted quickly as a three-legged animal, but the other went all to pieces.

A study was made of 191 legally blind high school students in four residential schools for the blind. Some were totally blind, others had partial sight. They were tested by Bernreuter scales for self sufficiency, neurotic tendencies, and dominance-submission; and by the California "F" scale measuring authoritarianism (obedience). No significant difference was found between the totally blind and the partially seeing students except in the last trait. The totally blind were less authoritarian than those with some vision. No explanation was found for this.

A Survey on Depth Perception Testing of Motorists. V. Ryan. *The Journal of the American Optometric Association*, Vol. 28, p. 658. June 1957.

The terms stereopsis and depth perception are often used synonymously; but stereopsis is only one aspect of depth perception, and of slight importance in the testing of motorists' vision. Judgment of distance, especially of distance in relation to speed, is far more significant.

Stereopsis gives the object seen solidity and a tridimensional appearance, but it is not essential for visual appreciation of space, and people manage very well without it by using other clues. Stereopsis requires the simultaneous vision of both eyes, and depends on retinal disparity, each eye getting a slightly different view. It provides a superior quality of depth perception, but has little utility in distant vision; military tests have proved it unrelated to flying ability, for instance. On the ground monocular clues have a higher localizing value than stereopsis at distances beyond 20 feet.

A one-eyed person can learn to manipulate space by the clues of perspective, ground relationships and the overlapping of contours, interpretation

of perceived size, and distribution of light and shade. Visual memory and experience, and the correct interpretation of parallax, can give the monocular person excellent depth perception.

In a survey of motorist testing the author queried the 19 states which test depth perception, and received answers from 15. It proved that they were all testing stereopsis rather than the sort of depth perception necessary for safe driving. Only Ohio made lack of stereopsis the deciding factor if the subject was on the borderline in other respects. In four other states those who failed the test for stereopsis were advised to have a professional examination. The author suggests the need of more realistic tests for depth perception in screening motorists.

The Relationship of Fields of Vision to Safety of Driving. With a Report of 680 Drivers Examined by Various Screening Methods. R. W. Danielson. *Transactions of the American Ophthalmological Society*. Vol. 54, p. 369. 1956.

An intense study of the literature, theoretical considerations, cases, and personal road experiments form the basis of this report, which the author characterizes as a pilot effort. His aim is to throw some light on the following general questions: Are visual field defects compatible with safe driving? If so, what types are safe? How often is a field defect the primary cause of an accident? How wide should peripheral fields be to justify a driver's license?

Among the factors discussed are diseases and abnormalities that seem to have a reasonable relationship to safe driving; environment, including speed; and apparatus and methods used for field of vision screening.

The author reports on tests of a group of 680 drivers by the Harrington-Flocks Multiple Pattern Method. Other screening devices were used as well, for partial comparison.

Following are some of the conclusions and recommendations drawn from the study:

Among all the causes of traffic accidents driver failure is by far the most important.

The lack of any reliable proof or statistics that field defects cause accidents, except rarely, can be explained by these factors: (a) there is usually no reasonable connection between the defective field of vision and the known causes of accidents listed; (b) a very small percentage of the drivers has a major field defect in either or both eyes; (c) there is a tremendous increase in the practical fields of vision of even those with definite field defects by the movements of the eyes, head and body; (d) by means of mirrors much of the driver's peripheral field can be brought into his central field; (e) major field defects are frequently due to serious physical disease that of itself prevents an individual from driving; (f) a driver who knows he has a handicap takes extra precautions; (g) most of the disabling field defects are associated with loss of visual acuity which is below the limit permissible for a driver's license.

A physically or mentally sound driver obeys traffic laws, intelligently takes precautions, and has a visual acuity of 20/40 or better in his better eye; he can operate an automobile with reasonable safety if his total binocular or monocular field is as low as 50°. An applicant with any consistent loss of a portion of his central field, or a constriction of the peripheral field

to 50° in any direction, should be referred to an ophthalmologist for a diagnosis and opinion and should be reexamined every year.

The quality of the central field is more important in driving than the quantity of the peripheral field, and the preference in testing should be given to the central field. However, when possible both the peripheral field and the central field should be tested. This has an additional advantage of selling the driver the idea that he has a defect and that the motor vehicle department has a record of it. A field vision test should include the nasal field as well as the temporal.

All disqualifying tests and particularly field tests should be repeated two or three times and should be consistent.

The author believes that the Harrington-Flocks Multiple Pattern Method is the best screening apparatus yet offered to measure the central field of drivers quickly, but that it tends to give too high a percentage of false positives in drivers' examinations. He recommends that it be done in an evenly and dimly lighted room away from extraneous influence; that the inventors carry out their announced intention to modify the instrument for specific situations by making fewer patterns, by using larger test objects in the patterns, or by designing the patterns with the view of uncovering the quantity of the field lost rather than to give hints as to diagnosis; that it be repeated on separate days.

Ophthalmologists should take more interest in safety and acquaint their patients wi'h eye defects which affect driving. They should have the courage to tell a patient with a disabling defect that he should not drive.

Dr. Danielson's report was prepared in cooperation with the University of Colorado School of Medicine and the Driver's Licensing Section of the Motor Vehicle Division of the State of Colorado.

School Vision Screening. E. U. Murphy and E. Thyng. *Journal of the Indiana State Medical Association*, Vol. 50, p. 1345. October 1957.

An evaluation of the Snellen vision test made in Evansville during the school year 1955–56 proved its adequacy as a screening procedure. The test has been routine in the public schools, with grade pupils tested every year, and high school pupils every two years. Recently proponents of more complicated methods questioned the efficiency of the Snellen test, which led to the survey reported here.

A total of 769 children in the kindergarten and third grade were tested in four schools by the school nurses. The children were taught how to take the test by their own classroom teachers. An ophthalmologist observed the beginning of the tests to make sure the proper procedures were followed. All 101 children failing the test (13 per cent) were retested, and only 37 (4 per cent) failed the second time. All 37 were sent to the eye doctor chosen by the parents, and only four incorrect referrals were found. To make sure that no children needing care had been missed in the screening, 100 pupils who had passed the test were given thorough examinations by an ophthalmologist. None was found who needed glasses or eye care.

The authors believe that intricate and costly tests like stereoscopic instruments are not successful in screening school children. (But the simplified

test reported by Dr. Samuel Diskan of Atlantic City which screens for vision, farsightedness and muscle balance may be added to the Snellen test if experience proves it useful.)

Vision Test Performance of School Children. H. M. Leverett. *American Journal of Ophthalmology*, Vol. 44. p. 508. October 1957.

More than 6,000 children from kindergarten through grade 12 were given the Massachusetts Vision Test in 1955-56 in the public schools of Bristol, Connecticut. They did not wear glasses during the examination. In evaluating results, three different scoring standards were used: (A) the original Massachusetts criteria used until 1954, (B) the somewhat lower Michigan standards, and (C) the still lower standards currently used in Massachusetts. Only moderate variations in failure rate appeared when these different tests were applied. But variations by grade levels were large; under all standards the increase in failure rate from kindergarten to grade 12 was about 35 per cent. The failure percentage by above standards A, B, and C for kindergarteners was 10.6, 4.2, and 2.4, while for twelfth graders it was 44, 40, and 37.8.

No one grade level stood out as indicating a good time for screening; the steady rise in test failures suggested the value of annual testing. Among the young children, about age five, more than 90 per cent passed the 20/20 monocular acuity tests; at age 17 about 39 per cent failed to pass the 20/20 test, with the most rapid rise in failures from grades 5 to 12. For the plus lens test, the failure rate increased from kindergarten to grade three, then with only small variations to grade 12. The phoria test failures increased consistently from kindergarten on, evidently reflecting an increasing frequency of motor anomalies.

This study indicates that visual acuity is mature by the age of five or six years. The superior performance of the younger children seems to contradict the usual opinion that young children should not be tested by the standards used for screening the older groups.

Effect of Variations in Color of Print and Background upon Eye Movements in Reading. R. B. Hackman and M. A. Tinker. *American Journal of Optometry*, Vol. 34, p. 354. July 1957.

Legibility of printing as measured by eye movements varies significantly with different color combinations of print and background. A study of oculomotor patterns of 49 college students showed the best legibility was provided by black on yellow, red on white, green on red, and black on white, in that order. The worst combinations were black on purple, orange on white, and red on green. However, the authors conclude that color as such is less important than brightness contrast. The darker the ink and the lighter the background, the better the legibility.

The subjects were given cards with 120 words printed in the seven different color combinations, and their test was recorded by the Minnesota eye-movement camera. Measures were made of perception time, fixation frequency, duration of pauses, and regression frequency. Perception time, for instance, varied from 17.4 seconds for the black-on-yellow cards to 24.5 for the red-on-green. The results of

this study were in harmony with the findings of other investigations.

Optometric Jurisprudence. H. Kohn. *The Bulletin* of the New York Optometric Society. Vol. 4—Series 2, p. 4. June 1957.

Optometric jurisprudence covers primarily the laws and regulations governing the practice of optometry. The most important provision in the law, the author believes, is the definition of the practice of the profession of optometry itself. "The words of the section are very clear," he states, "and yet there are optometrists who occasionally ask whether they may prescribe diet, mild eyewashes, or do or perform other things which are clearly beyond the stated definition.

"An optometrist is concerned solely with the correction and improvement of vision and the accomplishment thereof without the use of drugs, medicine or surgery. Even the mildest solution of boric acid falls in the category of a drug and it is totally unnecessary for an optometrist to jeopardize himself by advising his patient to use it.

"The matter of first aid is troublesome. In that regard, the optometrist is in no different position than any layman who offers first aid. Neither the optometrist nor the layman may charge for such assistance, for otherwise, he would be invading the field of medicine. Furthermore, the decisions lay down the following rule:

" 'One is not obliged to offer or render first aid, but if he does, he must render it with the same care as an ordinary prudent man doing the same thing would use. Therefore, the removal of a foreign body from the eye is always fraught with attendant risk. Since the optometrist is only rendering first aid, he is in no different position than the man who stands on the windy street corner and asks a passerby to twist the corner of a handkerchief and try to remove a speck from the eye. The optometrist might do it with greater finesse and with better instrumentation, but the risk of damage or injury always exists. A good standard rule to follow is that if the speck is embedded on the cornea, that the optometrist under no circumstances attempt to remove it, but should refer the patient for medical care.' "

Role of the General Practitioner in Prevention of Blindness. A. de Roetth and P. Dorman. *Journal of the American Medical Association*, Vol. 164, p. 1525. August 3, 1957.

The doctor in general practice realizes that the incidence of blindness is more and more shifting to the opposite poles of infancy and old age. The new wonder drugs have cut down blindness due to infectious diseases, and oxygen control should now protect all premature babies from retrolental fibroplasia, but many babies are still blinded by heredity and intrauterine damage. At the other end of the scale, degenerative changes attack the aging eye.

The causes of blindness today are reflected in the authors' series of 283 blind patients seen between 1951 and 1955. These are tabulated along with figures published by the National Society for the Prevention of Blindness for 1940 and 1950, and data from a 1939 survey in the State of Washington.

Of special significance is blindness from causes unknown to science, which composes about half the authors' cases. Included are cataract (29.3 per cent),

glaucoma (8.8 per cent), and senile macular degeneration (7.6 per cent). As the life span increases, so do these afflictions, and aging people are also liable to eye damage from general diseases: arteriosclerosis, hypertension, nephritis, and diabetes, which accounted for 11.7 per cent of the blind patients in the authors' series. Diabetes was responsible for half the cases in this group. Since only half as many diabetics develop eye troubles if the disease is well controlled, the role of the attending physician is highly important.

A large percentage of the authors' cases, 17.3, were blind from prenatal causes. While some blindness is hereditary, there are many cases caused by damage to the foetus from physical stress or virus infection during pregnancy. More research in all blinding diseases, early treatment of glaucoma and cataract, and safeguards against trauma can cut down the incidence of blindness.

Development of Prevention of Blindness Activities where a Formal Prevention of Blindness Program Has Not Been Established. E. K. Moore. *The Seer*. Vol. 27, p. 50. March 1957.

The establishment of a program promoting eye health and sight conservation requires a strong motivating drive. The impetus for such organized community action may be provided by any one of a number of individuals; for example, a representative of a recognized professional group in public health, education, medicine or safety engineering.

Mrs. Moore, who is the director of the prevention of blindness department, Pennsylvania Working Home for the Blind, Philadelphia, discusses how profitable relationships in furthering sight conservation may be worked out with the county medical society, the health department, visiting nurses association and the department of public assistance. She emphasizes the importance of good public relations, for which the groundwork must be laid at an early stage of committee development.

Cast Off the Darkness. Peter Putnam. *Ladies' Home Journal*, p. 68. April 1957.

This article is the condensed version of a book to be published by Harcourt Brace and Company. Peter Putnam attempted suicide with a .22 revolver when he was about twenty years of age and severed both optic nerves. This is the story of his adjustment to the problems of blindness, and of his courtship during the following year. He gives his reaction to the prognoses of two ophthalmologists, Drs. Unsworth and Dunnington, and of a brain surgeon, Dr. Walter Dandy. Contrary to the opinions of many, Mr. Putnam believes strongly in "facial vision."

Salicylate of Sodium in Experimental Ophthalmology. G. Scassellati Sforzolini. *Rassegna Italiana d' Ottalmologia*, Vol. 26, p. 19. January-February 1957.

A series of research problems was performed to study the action of sodium salicylate in various classical examples of experimental ocular processes in laboratory animals. The results were compared with those from the use of cortisone in an endeavor to evaluate their relative efficacy. The salicylate was employed in five per cent solution administered in heavy

doses hypodermically to be absorbed intra-ocularly. In the uveitis of the horse the effect was almost as great as that of cortisone. Introduced into the anterior chamber, the cortisone was less effective than the salicylate; in fact the former frequently produced irritative phenomena. The salicylate has not demonstrated its action on the relative sensitivity of all animals, nor has it modified the titer of the specific precipitans.

The Initial Symptomatology of Macular Affections. M. Sanna. *Rassegna Italiana d'Ottalmologia*, Vol. 26, p. 52. January-February 1957.

Sanna points out that macular function consists of the exploration of the morphoscopic sense, i.e. the capacity to recognize the smallest spatial details. Therefore the power of resolution and acuity express the power of discrimination of the eye. The three fundamentals of macular vision are the visible minimum, the separable minimum, and the power of alignment. Each element of the visual power is analyzed. Fifteen cases are recorded where the vision was 10/10 but fundus examination revealed such defects as macular edema of varying degrees and hemorrhages. The complaints were of phosphenes, translucent scotomata, paracentral scotoma, metamorphopsia, micropsia and macropsia. Few of the fundus changes which produce such subjective findings were discovered on ophthalmoscopic study on the first examination.

EUGENE M. BLAKE, M.D.

FLYING ERASER BLINDS EYE

A Tulsa, Oklahoma school girl, blinded in one eye by a blackboard eraser hurled across the room, has been awarded $30,000 damages by a district court. The accident occurred when the teacher was out of the room, and six boys began tossing erasers back and forth. One of them hit the girl's glasses, breaking a lens and driving splinters into her right eye. A doctor testified that the resulting damage cannot be corrected, and only 20 per cent of vision remains in the injured eye.

LABELS FOR CHEMICALS

State and federal laws requiring the labeling of chemicals dangerous to the eyes and other parts of the body are a hodge-podge, a recent American Medical Association study shows. While most states require labeling of narcotics, drugs, and pesticides, only 23 regulate the marking of caustics; five require marking of industrial chemicals, and three dangerous chemicals used in the household. The AMA urges a uniform law to protect all users of all these hazardous substances.

ODD TRANSPLANT

A Cleveland veteran has escaped blindness by a bizarre operation which transplanted a parotid duct from his mouth to his eye. For a while the sight of food made him weep, but this mealtime embarrassment has been corrected by a second operation opening a tear duct into the nose.

A skin disease had destroyed the tear glands and ducts of both the veteran's eyes, and the corneas were drying up, with blindness in store. Dr. James E. Bennett, attending ophthalmologist at the Veterans Administration Hospital, read of the parotid transplant in medical reports from Russia and China, and after experimenting on animals, operated on the veteran's left eye, the worse one.

The parotid duct, which carries a saliva-producing fluid along the inner cheek, was transplanted inside the lower eyelid, thus restoring the saline bath without which the eye suffers. The parotid fluid is very similar to tears, and in this case has succeeded in gradually restoring vision to the eye.

BOOKS AND PAMPHLETS

The Vertebrate Visual System. Stephen Polyak, M.D. Edited by Heinrich Klüver. University of Chicago Press, 1957. 1390 p. $45.00.

The late Dr. Polyak, professor of anatomy at the University of Chicago, spent thirty years preparing this tremendous book. After his death in 1955 the final editing was done by his friend Dr. Klüver, with whom he had for years "shared monkeys, ideas, and books" in a University building. The fact that there are 300 pages of bibliography indicates the range and thoroughness of this compendium. It is a one-volume encyclopedia about the creature man and his animal kinfolk, written from the viewpoint of his most precious sense.

The author's main interest is anatomy, but he often treats of structure in functional terms, and in the last part of the book he describes animal behavior as a naturalist might. The first section, too, is a broad treatment of our growing knowledge of the eye and of the brain itself, so that it provides the historical background for the ophthalmologist, the anatomist, or the biologist. More than a hundred portraits commemorate the pioneers in investigation, from Aristotle to contemporaries.

The two middle sections present in great detail the anatomy and the pathology of the retina and the visual pathways and centers of the brain. In the former he examines the anatomy and histology chiefly of men, apes, and monkeys; in the next section he concentrates on hemianopia, and provides full case histories. Richly descriptive and lavishly illustrated, these sections are a mine of information for the student and specialist alike.

The "Origin, Development, Comparative Anatomy, Physiology, and Biology of the Vertebrate Organs of Sight" is the comprehensive title of Part IV. The study of eleven visual systems, from the sunfish to the tarsier, includes descriptions of the habits and the quirks of these creatures. Then Polyak goes on to a broad consideration of vision and its role in the origin of man. He explains how the eye "may have initiated the formation of the brain" and declares that human intellect rests upon human vision. Man evolved, he says, through vision plus "the manipulative ability of the arms and hands, and the locomotor ability of the legs and feet."

Gifford's Textbook of Ophthalmology. Francis Heed Adler, M.D., Ed. W. B. Saunders Company, Philadelphia. Sixth Edition, 1957. 499 p. $8.00.

Recent shifts in the problems and management of ocular disease are reflected in the current revision of the late Sanford R. Gifford's standard work. Since it is intended for medical students and general practitioners, Dr. Adler, who has edited the last three editions, has again eliminated matters whose importance has now passed, and enlarged the discussions of current problems, especially the viral and degenerative diseases. He has gathered the scattered references to ocular injuries into a new chapter on first-aid procedures which the general practitioner may safely follow in emergencies. As Dr. Adler remarks

in his preface, he has also given the doctor "plenty of warnings as to when he had best call in help."

Developmental Abnormalities of the Eye. Ida Mann, F.R.C.S. 2nd Edition. J. B. Lippincott Company, Philadelphia, 1957. 419 p. $15.00.

In the twenty years since the first edition this book has become a classic in the field of ocular embryology, as has Ida Mann's *Development of the Human Eye* (1928). As revised and brought up to date, the present volume gives the student and the ophthalmologist a rounded view of both normal and abnormal eye development, written out of the immense experience of this distinguished surgeon and teacher.

Developmental abnormalities include congenital defects and those which may appear after birth. In approaching her subject Miss Mann points out the importance of the period at which an eye structure departs from the normal line. All gross defects arise during the first six weeks of fetal life, the period, she says, "most packed with incident." From then until the age of 25 the eye continues to develop, aberrantly or normally. The mechanisms which cause abnormalities are legion: genetics, infections such as rubella or toxoplasma, trauma, nutritional excess or deficiencies, clinical misuse of oxygen in RLF.

The various abnormalities are then discussed by structure, in the light of human and comparative embryology, pathology, case histories and heredity. As Conrad Berens remarks in his introduction, the author's "extensive background makes her wise advice concerning the management of patients with congenital anomalies (and their parents) required reading, not only for ophthalmologists, but also for psychiatrists and all those interested in handicapped children." The concluding chapter urges very early surgery for such conditions as total bilateral congenital cataract, which should be operated on within about a month of birth. This involves taping plastic spectacles on a tiny infant, but Miss Mann observes sensibly, "A child who badly requires spectacles does not tend to pull them off."

Miss Mann warns against parents and doctors uniting to overprotect a blind or partially seeing child. She punctures the illusion that myopic children should be kept from close work as causing "eyestrain." Even in a myopic child with nystagmus, she says, "visual acuity and steadiness of the eyes tend to improve when normal reading is allowed." The modern approach is to develop to the full the potentialities of the defective sense organ, and stimulating residual vision in the partially seeing child should be attempted. The doctor should remember that the intelligence of his patient is more important than his sight, and plan his training in the light of the child's mentality, character and resourcefulness.

Lens Materials in the Prevention of Eye Injuries. Arthur Hail Keeney, M.D. Charles C Thomas, Springfield, Illinois. 73 p. $3.50.

This monograph, accepted by the American Ophthalmological Society to satisfy their thesis requirement for membership, evaluates the various optical plastics now available. While the major companies have largely eliminated industrial eye injuries, many children and adults still are in need of

protection. The author advocates wider use of industrial and semi-ophthalmic types of case-hardened glass and allyl type resin lenses for prescriptions of minus cylindrical strength, and thinner materials for other dioptric ranges. At present most plastic lens materials are softer to surface scratching than glass, but ultimately they may be perfected for use by children, athletes, and those in need of special protection.

Slit Lamp Gonioscopy. George Gorin, M.D. and Adolph Posner, M.D. The Williams & Wilkins Company, Baltimore, 1957. 176 p. $7.00.

To those ophthalmologists who are not yet familiar with the techniques of gonioscopy this compact volume should prove a convenient handbook. The authors developed it from courses conducted by the Glaucoma Clinic of the Manhattan Eye, Ear and Throat Hospital, where they are attending surgeons.

While the main emphasis is on glaucoma, the gonioscopic method has also proved valuable in diagnosing tumors, inflammations, and injuries of the anterior segment. The authors present the essential facts about this portion of the eye, from anatomy to gonioscopic findings after surgery. Clear illustrations, a description of the techniques of gonioscopy in office practice, a bibliography, and a glossary round out a handbook of special value to the ophthalmologist.

El Problema Médico-Social de la Ceguera en Nuestro Medio. José Galvez Jaime. National University Medical School, Lima, Peru, 1954. 108 p.

Those able to read Spanish will find much of interest in this study of blindness in one of our sister republics. Dr. Galvez regards blindness as a medical-social problem which it is the responsibility of ophthalmologists to tackle. In Peru's population of roughly 8,500,000 there are an estimated 12,000 blind, of whom only two per cent had received state aid for surgical rehabilitation. Galvez' estimate of the proportion of persons blind in Peru is considerably lower than Hurlin's estimate for the United States.

Dr. Galvez reports a very low incidence of trachoma, but his figures suggest the need of campaigns against venereal diseases, tuberculosis, and other infections. In an intensive study of 54 patients in the National Institute of the Blind he found 30 cases caused by infectious diseases, and 13 by traumas. Under the former etiology there were eight patients blinded by ophthalmia neonatorum. With his great enthusiasm for prevention of blindness work in other countries, especially the United States, Dr. Galvez urges his colleagues to organize similar programs in Peru.

Optics, the Science of Vision. Vasco Ronchi, Ph.D. Translated from the Italian by Edward Rosen. New York University Press, New York City, 1957. 360 p. $10.00.

Dr. Ronchi, a physicist and an authority on photography and photoelectricity, has spent forty years formulating a system of optics as it applies to human vision. He believes that the mathematical and physical formulas which are true of mechanical measurements are false when applied to the eye, which is a complex mechanism with elements of physics, psychology, and physiology. The fruit of his labors to define a new "energy optics" is presented in this animated book.

In 1923 the author invented the Ronchi Test for interference testing of optical systems by means of diffraction gratings. He directs the National Institute of Optics in Italy.

Backwardness in Reading. M. D. Vernon, Sc.D. Cambridge University Press, London and New York (32 East 57th Street), 1957. 228 p. $4.75.

In the present welter of books about reading difficulties Dr. Vernon, professor of psychology at the University of Reading, accomplishes the feat of making the whole subject fresh and fascinating. This is her third book in the field, and her scientific approach should make it instructive to ophthalmologists and all interested in the psychology of vision and the learning problems of children.

Dr. Vernon examines a great range of studies dealing with the various factors in the problem, and deplores the lack of enough case histories to guide us in really understanding it. An early chapter on visual perception and a later one on visual defects demonstrate her conviction that the faculty of perception develops slowly, and that some defects may be the result rather than the cause of bad reading. In a previous book (1940) she observed "that the average child could not fully interpret a picture till he was about 11 years old, though he could give a simple description of its more obvious activities by the age of about 7 years." Much experimental work by others has since proved her right. However, she believes that auditory rather than visual perception presents serious difficulties to the normal child.

The author discusses cerebral dominance, speech deficiency, ocular and personality defects, and environmental factors, and evaluates remedial techniques. While she urges prompt correction of eye defects she points out that this will not automatically guarantee better reading in younger children or among very backward readers. After careful analysis of many studies she finds that reading backwardness is heterogeneous both in the origin and the nature of the disability. But one fairly universal characteristic is "the child's general state of doubt and confusion as to the relationship between the printed shape of words, their sounds and their meanings." She hopes for further psychological investigation to determine "whether in fact reading disability is based upon some fundamental cognitive incapacity." If its exact nature were then understood, backwardness could be remedied without using the present hit-or-miss methods.

Prevention of Chronic Illness. Chronic Illness in the United States—Volume I. Commission on Chronic Illness. Published for the Commonwealth Fund by Harvard University Press, Cambridge, Mass., 1957. 338 p. $6.00.

When the Commission on Chronic Illness began its studies in 1951, an estimated 28 million Americans suffered from chronic disease or impairment. In an effort to arouse public interest in cutting down this incidence, the Commission has issued as the first of four reports this volume on prevention. It includes the conclusions and recommendations which this national voluntary group adopted at the end of its seven-year program.

This valuable book presents two lines of action: primary and secondary

PROGRAM FOR EDUCATORS OF CHILDREN WITH IMPAIRED VISION

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The following courses are offered in cooperation with the American Foundation for the Blind, Inc., City of New York:

- Development and Education of the Young Blind Child (July 7 to July 25)
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- Instructional Procedures in the Education of Blind Children
- The Blind Individual in School and Society
- Workshop in the Education of Deaf-Blind Children(June 30 to July 18)

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DR. WILLIAM M. CRUICKSHANK, *Director*, Education Exceptional Children, School of Education, Syracuse University, Syracuse 10, New York

prevention. The former means averting the occurrence of a disease. For instance, among the blinding diseases, retrolental fibroplasia, radiation cataracts, and ophthalmia neonatorum can be avoided. Secondary prevention, halting the progression of a disease and preventing complications or sequelae, is based on health examinations and screening, which often reveal an unsuspected condition.

A chapter on blindness deals with five leading causes: cataracts, optic nerve atrophy, glaucoma, corneal disease, and uveitis. In each case there is a recommendation on how to avert or control the condition.

NSPB CATALOGUE—The National Society's 1958 catalogue of publications is now available on request. Pub. No. 32.

SIXTH SENSE EVALUATED

A value of $15,000 has been placed upon a blind man's ability to get around unassisted. *Guildcraft* reports that this award was made in a suit brought in Essex County, New Jersey. The blind plaintiff had fallen through an opening in the sidewalk, outside a bank building. He contended that, in addition to the physical injuries he had received, his confidence in moving around unaided was now completely shattered.

A BOOK

He ate and drank the precious words.
His spirit grew robust;
He knew no more that he was poor,
Nor that his frame was dust.
He danced along the dingy days,
And his bequest of wings
Was but a book. What liberty
A loosened spirit brings.

EMILY DICKINSON. *Poems.*
World Publishing Company

Index to Volume XXVII: 1957

SIGHT-SAVING REVIEW

AUTHORS

Adler, Francis Heed. (Bk. Rev.). 4:256
American Foundation for the Blind, New York. Proceedings of a National Work Session, Group Report No. 5. (Bk. Rev.). 3:200.
American Ophthalmological Society, Transactions, 1956. (Bk. Rev.). 2:133
Anderson, Christine. 4:214
Asbury, Taylor. 3:145
Atkinson, Donald T. (Bk. Rev.). 1:62

Belloc, Nedra B. 2:98
Benjamin, B. (Bk. Rev.). 3:196
Benson, Woodrow W. 1:13
Brodie, Fern H. (Bk. Rev.). 3:198

Cogan, David G. (Bk. Rev.). 1:60
Commission on Chronic Illness. (Bk. Rev.). 4:259
Connor, Frances Partridge. 1:28
Cunningham, Florence. 2:90
Cushman, Beulah. (Bk. Rev.). 1:60

Davey, J. B. (Bk. Rev.). 3:196
Donabedian, Avedis. 3:156
Dorland, W. A. Newman. (Bk. Rev.). 3:198
Downing, Burnetta. 2:78

Edwards, Thomas S. 2:96
Esbin, Leo. 2:83

Florio, A. E. (Bk. Rev.). 2:135
Foltz, Bernice J. 1:13
Fowler, Dorothy H. 2:98

Gorin, George. (Bk. Rev.). 4:258
Gradle, Audrey Hayden. 2:78
Gradle, Harry S. (Bk. Rev.). 1:59
Graeber, Frederick O. 1:13
Graham, Earl C. (Bk. Rev.). 2:135
Gray, Dorothy. 3:140

Hansell, Peter. (Bk. Rev.). 2:132
Harrington, David O. (Bk. Rev.). 3:197
Harris, Scott H. 3:152
Havener, William. 4:218
Hawkins, Ruth D. 4:224
Hellstrom, Bo E. (Bk. Rev.). 1:61
Henderson, Florence G. (Bk. Rev.). 3:199
Hoerr, Normand L., Editor. (Bk. Rev.). 2:134
Hofstetter, H. W. (Bk. Rev.). 1:62
Hubbard, John P., Editor. (Bk. Rev.). 2:132

Illuminating Engineering Society. (Bk. Rev.). 1:63
Irwin, Leslie W. (Bk. Rev.). 2:133

Jaime, Jose Galvez. (Bk. Rev.). 4:258
Jones, Virginia. 4:230

Kaplan, Leon. 4:211
Keeney, Arthur Hail. (Bk. Rev.). 4:257
Kilborne, Elizabeth B. (Bk. Rev.). 2:134
Krimsky, Emanuel. (Bk. Rev.). 2:132

Lindsay, John R., Editor. (Bk. Rev.). 3:197
Lotspeich, Ruth A. 3:145

Mann, Ida. (Bk. Rev.). 4:257
Maryland State Board of Education. (Bk. Rev.). 3:199
Meredith, F. L. (Bk. Rev.). 2:133
Mettier, Stacy R., Jr. 3:145
Mullen, Marjorie M. (Bk. Rev.). 2:135

National Health Council. (Bk. Rev.). 2:134
National League for Nursing, Department of Public Health Nursing. (Bk. Rev.). 2:134
National Science Foundation. (Bk. Rev.). 2:136
Newell, Frank W., Editor. (Bk. Rev.). 2:133
New York State Department of Health, Bureau of Maternal and Child Health. 3:149
New York State Department of Social Welfare, Commission for the Blind. 3:149
Norris, Miriam. (Bk. Rev.). 3:198

Ophthalmological Society of the United Kingdom, Transactions, Session 1956. (Bk. Rev.). 2:133
Osol, Arthur, Editor. (Bk. Rev.). 2:134

Pelone, Anthony J. 3:162
Penney, A. Ruth. 4:214
Perkins, E. S. (Bk. Rev.). 2:132
Pirie, Antoinette. (Bk. Rev.). 1:61
Polyak, Stephen. (Bk. Rev.). 4:256
Posner, Adolph. (Bk. Rev.). 4:258

Ridgway, William L. 3:145
Roberts, Brooks, Editor. (Bk. Rev.). 2:136
Ronchi, Vasco. 4:258
Rosenfeld, Leonard S. 3:156

Schulzinger, Morris S. (Bk. Rev.). 3:196
Shaffer, Robert N. 3:145
Sheridan, M. (Bk. Rev.). 3:196
Simmons, William D. 2:98
Solomon, Cyril, Editor. (Bk. Rev.). 2:136
Sorsby, Arnold. (Bk. Rev.). 3:196
Spaulding, Patricia J. (Bk. Rev.). 3:198
Stafford, G. T. (Bk. Rev.). 3:135
Staton, Wesley M. (Bk. Rev.). 2:133

Tanner, J. M. (Bk. Rev.). 3:196
Thygeson, Phillips. 1:5

Vail, Derrick, Editor. (Bk. Rev.). 3:197
van Heyningen, Ruth. (Bk. Rev.). 1:61
Vaughan, Daniel G., Jr. 3:145
Vernon, M. D. (Bk. Rev.). 4:259
Weller, Evalyn G. (Bk. Rev.). 2:134
World Council for the Welfare of the Blind. (Bk. Rev.). 1:64

SUBJECTS

CAUSES OF BLINDNESS

Causes of Blindness in California. Nedra B. Belloc, Dorothy H. Fowler and William D. Simmons. 2:98
Eskimos Need Doctors. 1:39
New York State Program. (Retrolental Fibroplasia). 1:43
Patterns of Disease. (Singapore). 1:44
Progress and Problems. (Australia). 2:120
(The) Register of the Blind, Its Use in a Prevention Program. A. Ruth Penney and Christine Anderson. 4:214
Revision of the Standard Classification of the Causes of Blindness. Committee on Statistics of the Blind. 2:112
Survey of Australasia. 1:17
Abstracts. 2:128; 3:193

CONFERENCES

Congress on Industrial Health. 4:220
18th International Congress of Ophthalmology. (Brussels, 1958). 1:18
Joint Conference of NSPB and Pan American Association of Ophthalmology, 1957. 1:24; 2:68
1958 NSPB Conference (Philadelphia). 2:119; 3:153; 4:213
Symposium Planned. (Brazil). 3:178

COURSES

AAOO Home Study Courses. 2:82
1957 Summer Courses. 1:34
1958 Summer Courses. 4:228
Vision Workshop in Columbus. 1:35

DEFINITION OF BLINDNESS

Legal Blindness Misleading. 1:40

DRIVERS' VISION

Faulty Depth Perception. 1:45
Visual Standards for Drivers. 1:27
Abstracts. 4:249, 250

DRUGS

Brucellosis from Spray. 4:221
New Compounds Dangerous. (Philippines). 2:121
Penicillin vs. Silver Nitrate in Ophthalmia Neonatorum Prophylaxis. Scott T. Harris. 3:152
Prophylaxis for Ophthalmia Neonatorum —A Survey of Practices in Idaho. Woodrow W. Benson, Bernice J. Foltz and Frederick O. Graeber. 1:13
Abstracts. 3:185, 186; 4:254

EDUCATION OF THE PARTIALLY SEEING

Classroom Methods and Materials for the Partially Seeing. Anthony J. Pelone. 3:162
Education of the Partially Seeing Child. (1957 NSPB Conference.). 3:168
Education Program Liberalized. 1:38
Equipment for the Partially Seeing. 4:217
Meeting of Committee on Partially Seeing. 4:229
New Pamphlet Series. 3:200
1958 Summer Courses. 4:228
(The) Pittsburgh Program for the Partially Seeing. Ruth D. Hawkins. 4:224
Preparing Teachers of the Partially Seeing. Frances Partridge Connor. 1:28
Why They Teach. 1:36

EYE DISEASES AND DEFECTS

Allergy
Abstract. 4:247

Amblyopia
Abstracts. 1:55; 4:246

Blennorrhea
Abstract. 2:130

Cataract
Freak Case of Lens Absorption. 3:153
Phenomenal Oldster. (Great Britain). 1:44
Why Cataract Patients Fail to Accept Eye Surgery. New York School of Social Work Study. 4:204
Abstracts. 1:49; 2:129; 3:186

Cerebral Palsy
Abstract. 4:245

Chorioretinitis
Abstract. 1:57

Congenital
Abstracts. 3:191; 4:245

Conjunctivitis
Abstracts. 2:126, 127

Glaucoma
Community-Wide Glaucoma Case Finding. Audrey Hayden Gradle and Burnetta Downing. 2:78
Duluth Glaucoma Detection. 1:39
Glaucoma Control Mandatory in Chile. 3:179
Glaucoma Detection in Private Practice and Hospital. Daniel G. Vaughan, Jr., Robert N. Shaffer, Taylor Asbury, Stacy R. Mettier, Jr., William L. Ridgway and Ruth A. Lotspeich. 3:145

Glaucoma Screening. William Havener. 4:218
NSPB Exhibit Reveals Early Glaucoma Cases. 2:97
Pharmacist is Ally. 2:89
Recommended Standards for Glaucoma Clinics. 1:25
Schoenberg Memorial Lectures. 1:19
Abstracts. 1:46, 47; 2:122, 123, 124, 127, 129; 3:180, 181, 182, 183, 184, 185, 195; 4:242, 243

Heredity
Abstract. 2:128

Iritis
Abstract. 2:127

Macular Disease
Abstract. 4:255

Myasthenia Gravis
Abstract. 1:51

Onchocerciasis
Fight Onchocerca. (French West Africa). 1:44

Ophthalmia Neonatorum
Landmark in a Crusade. 1:37
Penicillin vs. Silver Nitrate in Ophthalmia Neonatorum Prophylaxis. Scott T. Harris. 3:152
Prophylaxis for Ophthalmia Neonatorum—A Survey of Practices in Idaho. Woodrow W. Benson, Bernice J. Foltz and Frederick O. Graeber. 1:13

Pterygium
Abstract. 1:56

Retinal Detachment
Abstracts. 1:50; 2:128; 3:186, 187; 4:246

Retinoblastoma
Study of Retinoblastoma. 4:223
Abstract. 2:126

Retrolental Fibroplasia
Eyes of Prematures. (Finland). 1:44
Retrolental Fibroplasia in New York State. New York State Departments of Health and Social Welfare. 3:149
Abstracts. 1:52, 53; 3:188, 189; 4:243, 244

Sarcoidosis
Abstract. 1:51

Strabismus
Eye Defects in Preschool Children. Leon Kaplan. 4:211
Abstract. 1:53

Symptoms of Systemic Disease
Abstract. 4:246

Syphilis
Syphilis in Migrant Camps. 1:41
Taboos Still Exist. 2:111

Trachoma
Children as Campaigners. (Egypt). 2:120
Incidence of Trachoma. (Indonesia). 3:178
Prediction on Trachoma. (Thailand). 4:241
Trachoma Research. (France). 1:44
Tradition vs. Modern Medicine. (Morocco). 2:121
(The) Treatment of Trachoma. Phillips Thygeson. 1:5

Tumors
Abstracts. 2:126; 3:186; 4:247

Uveitis
Uveitis Study. 1:16
Abstract. 2:125

EYE INJURIES
Attack on Accidents. (South Africa). 3:179
Decrease in Injuries. 3:176
Effects of X-Irradiation. 2:119
First Aid for Acid Burns of the Eye. 2:119
Injuries in U. S. Wars. 2:131
No Fireworks Ban. (Great Britain). 1:44
Power Mower an Eye Menace. 3:151
Suits for Sight Loss. 3:177
Toy Firearms Condemned. 3:176
Abstracts. 1:55, 56, 57, 58; 2:127; 3:194

GENERAL PRACTITIONER
General Practitioner's Role. 1:21
Study of General Practice. 2:97
Abstract. 4:253

ILLUMINATION
Light Need Mounts. 1:40
Wonders of Vision. 1:20
Abstracts. 1:58; 4:248

INDUSTRY
Compensation Granted. 2:116
Congress on Industrial Health. 4:220
New Hazards. 1:42
Scared into Safety. 1:16
Ternstedt's Record. 2:117
Abstract. 2:122
See *Eye Injuries*

LENSES
Optical Aids Service of the Industrial Home for the Blind. Leo Esbin. 2:83
Low Vision Clinic. 3:176
Resin Lenses. 1:27
Abstracts. 3:193, 194

OPHTHALMOLOGY
Dr. Paton Honored. 3:177
Dr. Vail is Doyne Lecturer. 2:176
18th International Congress of Ophthalmology. 1:18

Medical Practice Described. (India). 4:240
(A) Message from Helen Keller to the 1957 Conference. 2:75
Ophthalmology in Alaska. 3:154
Proctor Medal to Dr. Ashton. 1:21; 4:240
Residencies Approved. 1:43
Abstract. 3:195

PREVENTION OF BLINDNESS PROGRAMS
Glasses for School Children. Virginia Jones. 4:230
Huge Drive Begins. (South Africa). 4:241
Legislation Related to the Eye. Dorothy Gray. 3:140
NSPB September Campaign. 4:223
New York State Program. 1:43
POB in Washington, D. C. 4:222
Progress in Florida. 1:42
Progress in Kansas. 4:231
(The) Register of the Blind, Its Use in a Prevention Program. A. Ruth Penney and Christine Anderson. 4:214
Rhode Island Reports. 1:41
WHO Extends Programs. (Switzerland). 4:240
Abstract. 4:254

PSYCHIATRIC FACTORS
Abstracts. 4:248, 249, 254

READING
Abstracts. 1:54; 2:130; 4:252

RESEARCH
Effects of X-Irradiation. 2:119
Ford Grants in Eye Field. 3:150
Human Tears. 2:116
NSPB Research Grants. 1:23
Abstracts. 1:54, 55

SIGHT RESTORATION
Hunton Eye Bank. 1:34
Lions Gift to the Eye Bank. 2:82
Ordeals of the Newly Seeing. 2:118
Abstracts. 1:48, 49; 2:129

SPORTS
Injuries in Athletes. (Austria). 3:178
Yellow Urged for Hunters. 2:136

STANDARDS AND MISCONCEPTIONS
Advertising Standards. 3:155
Free Glasses Urged. (Great Britain). 1:45
New Attack on Hoxsey. 1:26
Peppard Re-reviewed. 1:59
Principles of Medical Ethics. 4:233
Recommended Standards for Glaucoma Clinics. 1:25
Taboos Still Exist. 2:111
Abstracts. 4:251, 253

STATISTICS
High Cost of Blindness. 1:41
Patterns of Disease. (Singapore). 1:45
Population Gain. 1:40
Revision of the Standard Classification of the Causes of Blindness. 2:112

VISION TESTS
Atlantic City Test. 1:42
Eye Defects in Preschool Children. Leon Kaplan. 4:211
Fine-Mesh Screening. (Philadelphia). 1:41
Free Glasses Urged. (Great Britain). 1:45
Glaucoma Screening. William Havener, 4:218
Los Angeles Program. 2:117
Preschool Vision Screening. Florence Cunningham. 2:90
Replicability of a Screening Test. Avedis Donabedian and Leonard S. Rosenfeld. 3:156
Results of a Vision Survey. Thomas S. Edwards. 2:96
Vision of School Children. (Great Britain). 2:120
Vision Screening in Oregon. 2:116
Vision Test for Newborn Infants. 1:22
Abstracts. 1:54; 2:130, 131; 3:189, 190, 191, 192; 4:251, 252

MISCELLANEOUS
Award of the Leslie Dana Medal. (Eleanor Brown Merrill and Evelyn M. Carpenter.). 2:76, 77
Deaths
R. M. Atwater. 4:238
Frank E. Burch. 4:238
Henry A. Colgate. 4:238
William E. Cotter. 3:153
James D. Mooney. 4:238

DEPARTMENTS

Around the World. 1:44; 2:120; 3:178; 4:240
Books and Pamphlets. 1:59; 2:132; 3:196; 4:256
Current Articles. 1:46; 2:122; 3:180; 4:242
Notes and Comment. 1:40; 2:116; 3:176; 4:234

ADVERTISERS

American Optical Company. 1:1; 2:65; 3:137; 4:201
Excerpta Medica Foundation. 2:66; 3:138; 4:202
Good-Lite Mfg. Co. 1:4
Syracuse University. 1:63; 4:260
Welch Allyn. 1:3